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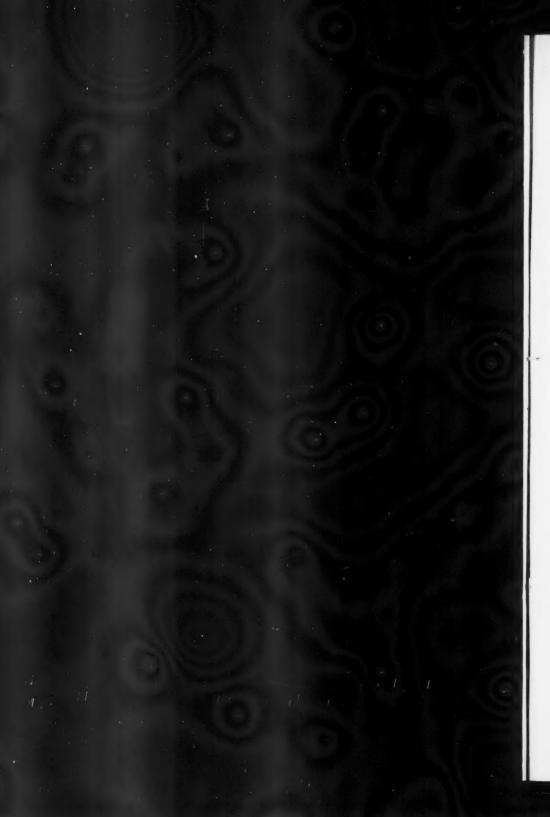
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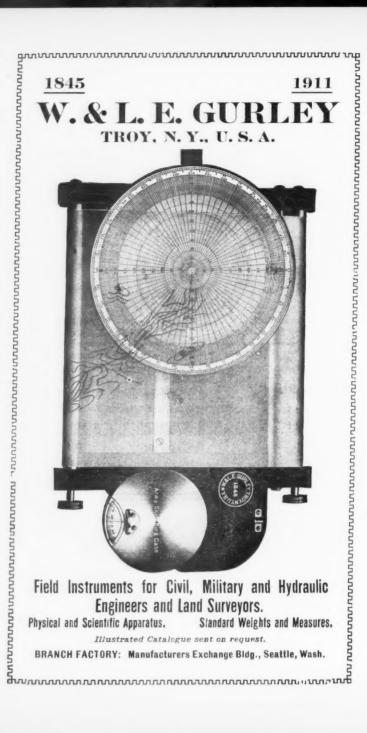
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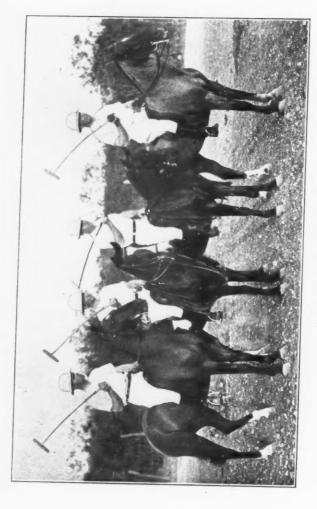
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THE BARR AND STROUD RANGE FINDER AND ITS USE IN NIGHT FIRING.

BY LIEUTENANT COLONEL W. C. BROWN, U. S. CAVALRY.

SOME weeks ago the writer secured for experimental purposes, a Barr and Stroud Range Finder, whose merits seem to deserve more than passing notice, and it meets one of the pressing demands now existing in the Infantry and Cavalry where we have one of the best, if not the best, rifle in the world which has a range of over three miles, but which we rarely use beyond 1,000 yards for lack of proper means of determining the range.

We now have the Weldon Range Finder, but this is unsatisfactory for the reason that a base must in every case be measured, an operation entirely impracticable when advancing to the attack. Frequently, too, a base cannot readily be found from both ends of which the objective can be seen.

The Barr and Stroud is an instrument which carries the base in the instrument itself and was invented in 1888 in response to a public advertisement for an instrument which would satisfy certain conditions specified by the British War office.

The writer is informed that the type of this range finder intended for Infantry and Cavalry has been adopted by the British, Norwegians and French; the latter having about 1,000 in use, 175 of which were ordered only a month or two ago.

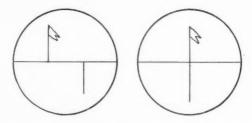
The essentials of this range finder may be stated as consisting of two separate telescopes, each of about twelve power mounted in a common frame, or tube, with the two



object glasses situated one at each end, and with the eye pieces at the center, suitable reflectors being provided at the objectives to direct the beams of light along the inside of the tube to the eye-pieces. The whole arrangement is such that the combined telescopes may be simultaneously directed on the same target. The range finder itself forms the base of the triangle, having at its vertex the object, the range of which is determined by measuring the parallax.

To make an observation the observer grasps the handles as shown in the illustration, directs the instrument towards the object whose distance is to be ascertained, holding the range finder horizontal and perpendicular to the line to the object. In the right eye-piece two mirrors are observed, separated by an extremely fine horizontal line. Supposing that the object is a flag staff, the picture presented to the observer will be that of a broken flag staff thus:

The image seen in the upper half of the field of view is formed by the left hand telescope, while the image seen in the lower half is formed by the right hand telescope. A thumb screw, or operating head, as it is called, lies on the under side of the instrument within easy reach of the thumb and forefinger of the right hand as it grasps the right handle.



Turning the operating head to the right causes the upper image to move to the left and its parts to separate, turning it to the left causes them to coincide thus:

When the images coincide the observer takes the reading from the scale which is seen through the left eye-piece, the scale having moved according to the direction in which the head was turned. The instrument, which, it will be thus seen, is of the Coincidence type, is one in which partial images of an object are separated by an extremely fine horizontal line. The range is found by bringing the images into exact alignment at the separating line. The human eye, under such conditions, is capable of distinguishing, with great exactitude any discontinuity or want of alignment even when the definition of the edges of the object is not perfect.

ADVANTAGES CLAIMED.

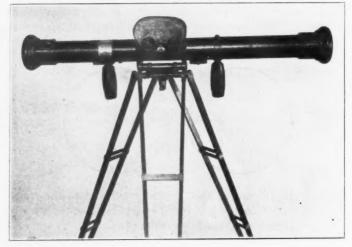
The advantages claimed for this range finder are:

First—Only one observer required.

Second—The ranges of moving objects can be continuously observed.

Third—It is not essential in the types suitable for Infantry and Cavalry that the instrument be level when taking observations.

Fourth—It can be used at night to take the range of distant lights.



Fifth—Rapidity of operation—thirty seconds or less being all the time required for determining a range.

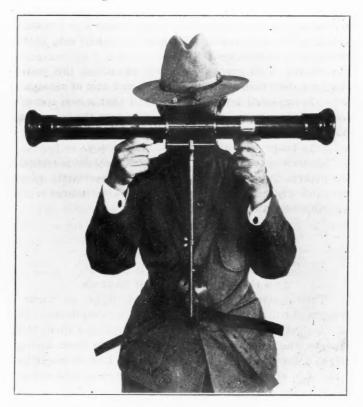
Sixth—It can be used from cover and from a prone position so that the observer's whereabouts are not disclosed to the enemy.

These range finders are made in sizes varying from those having fifteen and twelve feet bases for use on ship-board and in sea coast forts; to an instrument with a four feet six inch base for field artillery down to those intended for infantry and cavalry, having bases of but thirty-two and twenty-six inches.

It is the latter (twenty-six inch base) and more portable instrument, which may easily be carried in a leather case

thrown over the back-that officers are experimenting with at Fort Sam Houston.

Its length over all is thirty inches and weight seven and one-fourth pounds. Its price is \$600, in New York, which includes a thirty per cent. duty. Probably the price by the quantity at the factory in Glasgow would be but little more than half that figure.



This instrument may be mounted on a light tripod as shown in the illustration, or it may be supported by leather braces thrown over the shoulders. The lighter instrument may simply be held by the handles, the observer lying prone and resting his elbows on the ground entirely screened from the enemy.

Should one of the range finders be issued to each company it could be carried and used by some steady, reliable soldier known to have keen eye-sight and a steady hand. In action he would accompany the captain, and his sole duty would be to ascertain and announce ranges. This man should not carry a rifle.

In reconnaissance work such an instrument would be invaluable as affording a quick and accurate method of determining the distances to the principal points in a position sketch, or in determining distances to either side in the making of road sketches.

Officers of all grades who have examined the instrument are delighted with its accuracy and ease of manipulation. In repeated trials it was found that a non-commissioned officer who had never previously seen the instrument could, after three or four minutes instruction, manipulate it and get a range with a fair degree of accuracy.

No such instrument can, of course, be absolutely accurate. The makers claim that the approximate uncertainty of observation of the twenty-six inch base instrument under favorable conditions of observation as:

At a range of 500 yards is 2 yards. At a range of 1000 yards is 8 yards. At a range of 1500 yards is 20 yards. At a range of 2000 yards is 40 yards. At a range of 3000 yards is 80 yards.

The ascertaining of distances to lights at night is brought about in the Range Finder by a clever device called an "Astigmatizer" which, by merely pushing a small lever, changes the appearance of a distant light from a single bright point to a bright vertical streak. The observer proceeds then exactly as though it were luminous pole and gets range accordingly.

This astigmatizer is useful also in securing ranges by day when the object is ill defined, as a clump of bushes or pile of stones.

The large number of troops assembled here afforded an excellent opportunity for making a comparative test of the range finder and of the efforts of officers best qualified in estimating distances.

The method of testing was as follows: Each of the regimental commanders of the five regiments was asked to send three field officers or captains, selecting those known to be more than ordinary expert at estimating distances, to assist in making the test.

The officers, two lieutenant colonels, three majors and ten captains, were assembled and were then told to estimate to various objects in view, the distances to which were subsequently ascertained to be from 1,330 to 1,854 yards (see table), each officer working independently and recording his estimate with pad and pencil. Estimates were at the same time made and recorded by the officer working the range finder in the same way. The line was then advanced, as a line might be advanced to the attack, and halts and estimates made at eight different points toward the objective. At several of the halts estimates in like manner were made and recorded to objects to the right and left of the line of advance. In all there were estimates made to twenty-one different objects, varying in distance from 475 up to 1,854 yards, except in one instance where it was 4,300 yards.

The following table shows the correct distances, the distances as given by the range finder, the error of the range finder, and the average of errors made by officers:

Correct Distances.	Distances as given by Range Finder.	Error of Range Finder.	Average error made by officers.
1354	1640	214	330
1330	1335	5	360
1770	18.0	30	369
1673	1650	23	318
1700	1830	130	240
1990	1970	20	463
1496	1440	56	321
1620	172	100	249
1287	1250	37	292
1225	1260	35	269
1116	1130	14	252
949	970	21	228
761	750	II	185
840	830	10	159
628	61.7	21	147
1030	1190	160	165
475	470	5	118
1080	1030	50	232
4300	4500	200	973
955	870	85	240
1350	1280	70	215

An examination of this table discloses the fact that in every case the average error of estimates made by the officers exceeded that made by the range finder, in fact, in some 'instances, this average error was from twenty-three to seventy-two times the error made by the range finder, which seems to warrant the assertion that at distances over 1,000 yards our officers cannot be expected to estimate with that degree of accuracy that will generally insure the cluster of shots covering the objective; usually they will not cover it.

The dangerous space at the longer ranges diminishes so rapidly as the range increases that the distance to objectives between 1,000 and 2,000 yards must be known within limits so narrow that the ordinary method of estimating, too frequently mere "guessing," will not suffice. On the other hand the range finder can be depended upon to give results with a good degree of accuracy to well beyond 2,000 yards.

Our rifle, using the present cartrige, gives at 2,000 yards a mean absolute deviation of the cluster of shots of but 38½ inches. It may, therefore, be fairly asserted that, without a suitable Range Finder, we are failing to profit by the super-

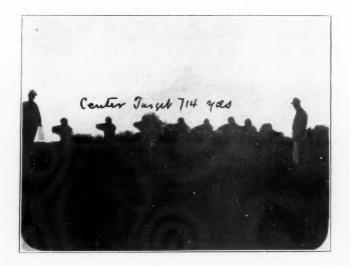
iority of our high powered accurate rifle.

In the test at Fort Sam Houston I operated the Range Finder, having had it only about twelve days, and this being the first "run" I had ever made with it; practically all my observations were made from the prone position where the heat waves made it very difficult to secure correct observations. With practice the work on this occasion could be very materially improved.

After extended experimental firing at the Ordnance Range at Fort Clark, Texas, in 1904, the writer found that expert shots could, at 2,000 yards, with the old bullet and cartridge giving an initial velocity of 2,300 feet, usually put ten out of thirteen consecutive shots inside an eleven foot square. With the present sharp-nosed bullet, 2,600 feet initial velocity and telescopic sight, a considerably closer cluster may reasonably be expected, one close enough that experts and the Benét-Mercié machine gun platoons may, if they know the range, open up on bodies of the enemy with good prospects of their fire being effective at distances which

heretofore to do so would be regarded as a waste of ammunition. In night operations, if the enemy's position be indicated by a light or lights, the combined use of the Barr and Stroud Range Finder and telescopic sight will make the fire on such position effective.

To demonstrate whether or not this would be feasible, it was thought best to test this, in a practical way, by the solution of a night firing problem, the general idea of which was that of estimating distances to lights on a dark night, these lights being supposed to be about the middle of groups or squads of the enemy upon whom, after ascertaining the



distances by the Range Finder, fire was opened, the telescopic sights attached to the Benét-Mercié machine guns being used in aiming. The main object was to hit as many figures as possible. The Range Finder used was the Barr and Stroud with a twenty-six inch base, (Infantry and Cavalry type.)

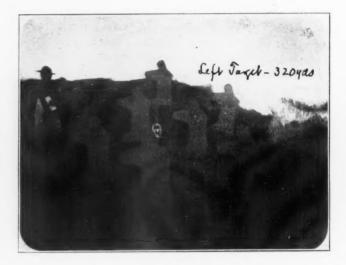
The location of the groups of figures (eight kneeling silhouttes in each group) with lights, was of course withheld from the firing party and myself who were charged with solving the following:

PROBLEM.

Scouts report that the enemy is evidently entrenching in our front, and three parties are working with lanterns which can be seen from a point just north-west of the 22nd Infantry camp, distance unknown.

A detachment of the Machine Gun Platoon, 11th Cavalry, with the Range Finder, will be conducted by the scouts to the point indicated and ascertain the distances to his working parties, taking precautions in doing so not to disclose our presence to the enemy. Fire will then be similtaneously opened on each of the enemy's parties so as to cause him to cease operations.

The night was very dark, and we were conducted by a circuitous route to the firing point where three lights were visible, arriving at 8:12 P. M.



At 8:15 the range of the left light was announced to be 316 yards.

At 8:18 the range of the center light was announced to be 720 yards.

At 8:20 the range of the right light was announced to be 558 yards.

More difficulty was experienced getting the lights in the field of view of the Range Finder than in determining the ranges, these latter being determined in about twenty seconds after the lights had been picked up. This difficulty would doubtless disappear in the use of the more recent models which are provided with a "finder."

There were but two men with each machine gun, the man doing the firing and an assistant; the latter holding a covered light for setting the sights, and during the firing holding and ordinary cotton string burning in a coal, (not a flame), like a fuse about one inch in front of the object lens of the telescopic sight, thus enabling the firer to see the cross hairs of the sight and direct them on the distant light. Care was taken not to expose any light so that it could be seen by the enemy.

As fast as ranges were announced sights were set and fire from all rifles was simultaneously opened at 8:24½. Three clips, ninety rounds, were fired from each rifle.

At 8:28 the light at the left target was shot away and at 8:29 the command, "cease firing," was given.

The targets were then marked under the supervision of the umpire with the following result:

Left target—total hits 6	Number of figures hit 4
Center target—total hits 7	Number of figures hit
Right target—total hits22	Number of figures hit 7
Total35	Total

Per cent of figures hit $(\frac{17}{34}) = 70$ per cent.

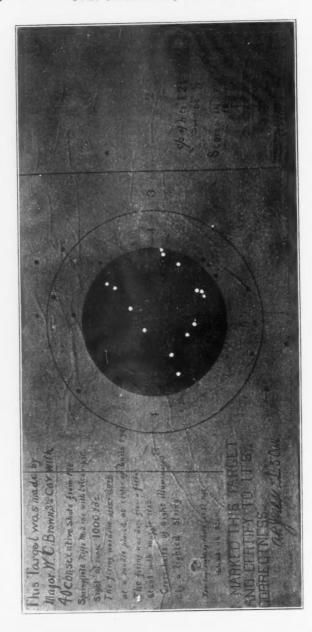
Number of shots fired at each target, 90 or total of 270. Per cent of hits, 13 per cent.

On the morning following the firing the distances were estimated again by the range finder and later accurately measured by tape-line with the following results:

Distance determined by

Range Finder.	Measurement.	Error.
Left target312 yards.	320 yards.	8 yards.
Center target	714 yards.	9 yards.
Right target 518 vards.	515 yards.	23 yards,

If provision were made for attaching Maxim Silencers to the machine rifles, which might readily be done, the flash of the rifles would have been absolutely taken up, and, except so far as the sound indicated the direction whence came



the fire, the enemy would be at a loss as to its origin; in any event it would be useless for him to reply to it as he would have neither stationary lights nor flashes to aim at.

It has been demonstrated that nothing can be accomplished with the ordinary sight at night in firing at midranges and over.

The Ordnance Department, however, has issued to experts in nearly every company and troop a telescopic sight, full advantage of which seems not to have been taken.

As an instance of what may be done with the telescopic sight with a muzzle rest, and in the opinion of the writer a muzzle rest should habitually be used with this sight, attention is invited to the accompanying photographs of a 1,000-yard target made several years ago in night firing at Camp Stotsenburg:

Here, of course, the exact distance was known, but it is thought that many conditions may arise in active service where the distance to the objective may be found at night if we but have a suitable range finder to get it.

THE CHARGING UNIT.

The logical basis for bringing our cavalry up to date with little or no change in the organization.

By AN OFFICER ABROAD.

In all the discussion concerning the reorganization of our cavalry, it seems to me that the key note of the whole matter has been overlooked. To dismiss the 600 man regiment as being below the dignity of either majors or colonels; to regard a 900 man regiment as a more effective organization and as one more in keeping with our traditions as to the proper command of the senior officers; to try and determine whether we, or the nations of Europe, are all wrong in the organization of the cavalry; to do this would seem to overlook the basic principles of the mounted service.

In the first place, and I do not believe there can be any real doubt on this question, our cavalry is organized on the mounted infantry basis. Far from criticising this organization, I believe it the best in the world for its purpose, a quick and powerful dismounted action from any formation, and that its success in this role has been too convincingly proved to warrant any change.

On the other hand all the cavalry in Europe is organized on the mounted action basis and I am sure no officer, no matter how ardent a faith he may have in our superiority, could see one or more regiments abroad charging, as a cohesive unit of power and strength with its small front of 300 yards and see the massive weight of the double rank of steel and flesh as one solid mass, and not feel that the thin, elongated single lines of our regiments, though numerically much greater, would stand but little chance if they should meet mounted.

With this as a foreword, and taking each of these two schools as the proper basis for its particular line of work, we come to the key note of the entire discussion as applicable to our service; what unit mounted can best be handled by one man. The proper command for this one man should determine any reorginazion of our cavalry, this, the best mounted charging unit, must be the key note of all discussion that considers mounted action.

As the Russian cavalry regiment is a good example of all foreign ones, I may state that it consists of about 600 men in double rank or a front of about 300 yards, and that with this formation the only question is whether or not it is too big for the colonel to handle properly.

From 600 the number of men in a regiment shrinks to 450 in England and the British cavalrymen are a hard headed, hard riding lot. It seems unreasonable to suppose that these foreign nations, whose existence depends on the effectiveness of their armies, should adopt and maintain a cavalry organization not best suited for the work in hand. The unanimous opinion of all Russian officers is that 600 is the maximum number which can be handled properly by one man and that they must be in double rank so that the front will not cover much more than 300 yards; that for a colonel to try and handle more would mean that his regiment at once loses its cohesion, mobility and effective directions.

Assuming, then, the correct basis for the cavalry charging unit to be from 400 to 600 and as to the correctness of this assumption I can see no possible question, we find ready at hand for us the ideal conditions, if we but use them. Raise our regiments to the war strength of 1,200 men, and we have the magnificent mounted infantry of our service unequaled by any in the world and at the same time we have three charging units, the squadrons, all under a colonel, to be used as units when acting alone, or in line corresponding to a foreign brigade, a magnificent command for any colonel, corresponding to a general of brigade abroad and yet at the same time retaining our unique ability as regiments to fight on foot. To have the charging units led by majors would

give the further advantage of younger, more active and harder riding leaders.

To accomplish this change would require no congressional action but it could be done by executive order and by making the necessary changes in the drill regulations. For the latter the regimental drill could be almost entirely abolished, retaining only enough for simple formations and ceremonies, assimilating it to brigade work. The squadron drill can be greatly simplified for mounted work, requiring, however, a double line, perhaps of platoons at one-quarter distance, and lessening the interval between troops so as to have a practically solid unit. These changes in the drill, looking toward to simple mounted work of a charging unit and yet retaining our necessary dismounted work, would not be a matter of great difficulty though of experiment, care and study.

To adopt a 600 man regiment it would be necessary for us frankly to copy the foreign services. To adopt a 900 man regiment would in my mind be less desirable, for it would be an impossibility for any one colonel to handle such a number with a front, even in double rank, of close to 500 yards. To swing it in the first galloping drills, as one can see with the Russian 600 man regiment, to keep it as a cohesive mass, would, I am positive be an utter impossibility. Such is I believe, the unanimous opinion also of all other officers here. I feel so absolutely certain of the ineffectiveness of such an organization as a charging unit that I desire particularly to emphasize this point.

From a long experience with cavalry troops in the past, from the opportunity I have had of hearing the opinions of the best of foreign officers, it would appear to me a very great mistake for our cavalry service to continue to cry for the moon when we have the sun with us but do not know enough to use it, when, without cost or change in organization, without diminishing the traditions and splendid ability of our dismounted work, we have in our own hands the ideal organization for mounted work as well.

HORSE BREEDING IN HUNGARY.

BY MAJOR HENRY T. ALLEN, GENERAL STAFF, U. S. ARMY.

JUNGARY'S horse-breeding history has several points which appear to demonstrate very clearly the eventual benefits of crossing the coarser breeds with the thoroughbred. The original breed of Hungarian horse was mostly of the Eastern type, the nation coming from the East and bringing their horses with them. For centuries the Hungarians were at war with the Turks, and the occupation of portions of the land kept the breed of horses frequently infused with fresh Eastern blood. By reason of these long wars the country did not progress as the other states of Europe were doing; there were practically no good roads, and, the thin population always requiring long distances to be traveled, there was a demand for stamina in the horses. In these times, however, horses were not reared with much care, and so there was a natural process of "selection" going on, the weaker horses succumbing to the inclemency of the weather, the insufficiency of food, and the work required of them. All the great land owners and many cities had studs for raising horses, mostly of the Eastern type.

When things became more progressive in the 17th and 18th centuries, Spanish horses were used in many large studs, but in 1825 the first importations of English thoroughbred horses came into the principal studs of the larger land owners, since which time thoroughbred horses are used almost exclusively, so marked have been the beneficial results, giving not only increased stamina, strength and ability, but also a decided increase in size and bone.

The operations of thoroughbred blood are nicely illustrated by the government stud at Mezohegyes, where the government began to breed horses after the end of the wars with the Turks, or about the end of the 18th century. The army

being reduced, many of the mares which were not wanted for military purposes were collected at Mezohegyes, and were used for breeding horses to be originally employed as remounts for the army. A little later the government officials started another stud at Babolna, where they bred horses of the Arabian type, and this stud is now kept up with about 200 mares.

In both studs the mares were originally of many varieties of breed. In Babolna the Arab type was retained, but in Mezohegyes every sort of horses were bred. Here various changes were made, breeding sometimes according to color, sometimes according to size, sometimes to race, until about the middle of the last century the produce were mostly used for military remounts, keeping only a few horses for stud purposes. At the end of the war with Napoleon a horse called NONIUS was brought to Mezohegyes from a state stud in France. NONIUS was by a thoroughbred (Orion, son of Marmetin) out of a Norman mare. The exact pedigree is in some dispute, however. NONIUS and his sons were freely used at this stud, and they founded a special type. They were very big animals, with very good limbs, but had ugly Romannosed heads; a little ewe-necked; not the best ribs; light quarters; some of them were good horses, but many were soft, as must be the case with such big-boned horses without "blood." It was the general opinion, and is the deduction of the best judges, that when they were descended of a better bred mare they were harder and better, and when they came from Holstein or cold-blooded mares they were softer and inferior.

The first thoroughbred horse used at Mezohegyes was FURIOSO. This horse, who was bought in 1840, or about that time (he was foaled in 1836), founded a tribe which was called after him, and which is much liked to this day. Until the middle of the last century many changes occurred at Mezohegyes, according to the varying whims of the commander; after that time the management was somewhat better, but it was not until 1868, when the Hungarian government took a hand in the management, that a rational and really intelligent course of procedure began, many unsuccessful experiments having been made by the breeds promiscuously. From about 1850

the produce of the stud were not used for military remounts, but the suitable horses were retained for stud purposes and were sent to various stations in the country to cover mares at a low fee.

The stud now consists of three nominally different breeds, but in reality they are all half-breeds. They are:

- (I) The GIDRANS, called after an Arabian stallion to whom they are inbred. They are all chestnuts. At one time they began to get very soft, but recourse was then had to an infusion of thoroughbred blood through stallions, and the GIDRANS then changed altogether in shape, and made such improvement in quality and capability that many people consider them to now be the best animals in the stud. To keep up the breed without losing the size and bone one-half stallions of the original breed are also used, but in these there is a strong infusion of English blood through their dams.
- (II) The so-called half-breeds descended mostly from FURIOSO and another thoroughbred horse, NORTH STAR, who was purchased about 1852. They are covered partly by thoroughbred horses and partly by half-breeds out of the stud, as it is the intention to here breed very big and strong horses.
- (III) The Nonius stud is in two parts, larger and smaller. Up to 16 hands the mares go to the smaller stud; above that they are sent to the larger. Here also thoroughbred horses are used with the best results, as the Nonius tribe lost their ugly, big heads, got better necks, are better ribbed up, now have good quarters, and are in all respects greatly improved. Here, besides the thoroughbreds, half-breeds are also used to keep up the size and bone, but in these there are also three or four crosses of the thoroughbred. There are now in this stud about 500 mares, half of them being covered by thoroughbred horses.

Besides the Mezohegyes and Babolna studs there is the Kisber stud, with from sixteen to eighteen thoroughbred mares, whose produce are annually sold as yearlings to Hungarians or Austrians, with the condition that they cannot be sold or leased abroad. There are also about 200 half-bred mares who are also used to breed stallions. Here, with few exceptions, only

thoroughbred sires are used, and half-breds if more size or bone is wanted. At Kisber stand the high-class thoroughbred stallions which are from time to time imported from England, to be used by private breeders at a reasonable fee.

Two studs are in Transylvania, one of about sixty mares (half-breds) and the other of about 120 of the Lippizen breed, a Spanish-Arabian breed which is kept pure, and produces horses suitable for carriage work. Another stud of about 100 mares is kept at Godollo. They are of the smaller Nonius breed, and the stallions are of the same. The intention is to here breed country stallions for the poorer part of the land, as this breed feels least the want of good keeping.

From all of these studs the suitable horses are selected and sent at the age of 31/2 years to the stallion depots, from which they go the next spring to the different stations, where they cover at fees ranging from \$1 to \$5. Besides the horses bred by the state, there are contracts made with different breeders, whose colts are inspected at 1, 2 and 3 years old, and when suitable are bought at an average price as stipulated in the contract and are then used as country stallions. Annually the government also buys thoroughbred stallions from private breeders for the same purpose. All of the stallions before they go to the stations can be hired by private breeders, but, excepting the thoroughbred, no stallion can be hired if he was already at a covering station. When the stallions are 5 or 6 years old a certain number of them are sent to the military schools and certain others to some hunts, to be used there, in order that they may all undergo a certain amount of work, and if some weakness is shown they are withdrawn from breeding. When the stallions become too old to cover many mares they are sold at very moderate prices to small breeders, giving these breeders frequent occasions to get very good stallions at small prices.

There are now about 3,500 stallions of the government at the different stations, of which about 360 are thoroughbreds, besides those of the private breeders. The result of using the thoroughbred is very satisfactory. Proof of this is the fact that the military authorities for a long time did not like to buy the highly bred horses for remounts. Now, however, they

have found out the usefulness of the blood; they seek out purposely the horses bred from thoroughbred stallions, and in these they overlook some defects to which they would certainly object in a differently bred horse. As they have a fixed average price to buy remounts, they pay a little less for the indifferently bred one, so as to be able to give more for the better bred one.

The Hungarian government not only gives encouragement to the races, but also affords them real assistance, spending a large amount in giving prizes, and also in buying, if only it is possible, all the horses which are of no use on the turf, which means a great deal for the owners.

PUREBRED HORSES IN THE UNITED STATES.*

By GEORGE M. ROMMEL, CHIEF OF ANIMAL HUSBANDRY DIVISION, Department of Agriculture.**

THE tabulation below shows the number of purebred horses registered in American studbooks on June 30, 1910, from reports of their secretaries, and estimates of the number living are included. From this table it appears that of all purebred horses registered, those of the light type constitute 76.11 per cent. of the total, ponies 2.39 and draft horses 21.50. Of the number of purebred horses living, light horses constitute 56.66 per cent. of the total, ponies 3.77 and drafters 39.57.

TABLE I.

Number of horses in the United States, registered on June 30, 1910, with estimate of number of horses living on that date.

	Animals Registered.		Animals Living.			
BREED.	Male.	Female.	Total.	Male.	Female.	Total.
Light horses.						
American						
Trotter	54,055	174,356	228.411*			75,000
Cleveland Bay	1,301	544	1,845	950	350	1,330
French Coach						
Studbook	2,335	792	3,127	1 400	400	1,800
Register	333	1.4	347	330	10	340
German Coach	2,692	403	3,0,5			2,500+
Hackney	1,371	2,394	3,765	900	1,800	2,700
Morgan	2,131	5,896	8,027*	2,000	1,800	3,800
Saddle Horse	4,349	6,985	1*,334*			5,500+
Thoroughbred			58,263	12,500	17,560	30,000
Total	68,567	191,384	318,214 76.11			122,970 56.66

^{*}Furnished to Major Henry T. Allen, General Staff, U. S. Army, for publication in the CAVALRY JOURNAL, by the Acting Chief of Bureau of Animal Industry, Department of Agriculture.

TABLE I .- Continued.

1	Anim	als Regist	tered.	Ani	Animals Living.		
BREED.	Male.	Female.	Total.	Male.	Female.	Total.	
Ponies. Shetland Welsh	3,851 53	5,958 135	9,809	2,500	5,500 132	8,000	
Total	3,904	6,093	9 997 2.39			8,181 3.77	
Draft Horses. Belgin Clydesdale French Percheron	5,172	7,875	6,947 15,278 20,007	4,960	1,660 6,800	6,620 13,250 14,000	
Studbook Register A. B. & I. P. Shire	13,424 2,024 2,408 8,158 277	14,630. 1.308 1,728 3,465 249	28,054 3,332 4,131 11,623 526	24,000 1,900 2,650 2,360 90	16,000 1,100 1,750 1,970 203	49,000 3,000 4,400 4,330 293	
Total	43,595	31,030	89,898 21.50			85,893 39-57	
Total, all breeds	116,066	228,507	418,109			217,044	

Much more accurate information appears in Table II.

In a number of States, laws have been enacted requiring stallions standing for public service to be licensed by the State authorities, and to be free from hereditary unsoundnesses. The reports of the officials in charge of this work give some idea of the rapid growth of the draft horse industry in the United States, and indicate strongly the real reason for the present difficulty of obtaining remounts for the army.

Statistics have been compiled from reports of the stallion registration officers in Pennsylvania, Wisconsin, Minnesota and Kansas. The following statement shows the relative proportions of light, pony and draft pure-bred stallions and grade stallions licensed for public service in the States named:

^{*} Includes some geldings.

⁺ Based on estimate of June 30, 1907.

Wisconsin, stallions licensed 1906-1908, from Bulletins 155 and 169, Wisconsin Experiment Station.

REED	Number	Per cent of Purebreds	Per cent of all horses licensed
Light			
Cleveland Bay	4		
French Coach	59		
German Coach	41		
Hackney	21		
Morgan	15		
Standardbred	3 12		*******
Non-standard			
Thoroughbred	2		
Saddle	3		
Yorkshire Coach	1		
Total	538	36.20	14.23
Ponv			
Shetland	5	.34	.13
Draft			
Belgian	79		
Clydesdale	102		
French Draft	50		
Percheron	648		
Shire	61		
Suffolk	3		
Total	943	63 46	24.94
Total purebred	1486		30 30
Grades and Mongrels	2295		60.70
Total stallions licensed	3781		

Minnesota, stallions licensed for public service to 1910, from Bulletin 3, Minnesota State Stallion Registration Board.

BREED.	Number.	Per cent of Purebreds.	Per cent, of all.
Light Morgan Cleveland Bay French Coach German Coach Hackney Standardbred Thoroughbred	18 6 18 26 6		
Total	256	17.21	6.36



Pages 424 and 425 should follow page 427, these two pages being a continuation of Table III.



Minnesota Stallions - Continued.

BREED.	Number.	Per cent of Purebreds.	
Pony			
Shetland	3	, 20	
Draft			
Percheron	823		
Belgian	178		
Shire	51		
Clydesdale	90		
French Draft	82		
Suffolk	4		
Total	1228	82.58	30.53
Total purebred	1487		36.97
Grades	2535		63 03
Total stallions licensed	4022		

Kansas, stallions licensed for public service in 1910, from Report No. 1, Kansas State Live Stock Registry Board.

BREED	Number	Per cent of Purebreds	Per cent of all
Light			
Cleveland Bay	15		
French Coach	35		
German Coach	38		
Hackney	12		
Morgan	17		
Saddle	16		
Standardbred	553		
Thoroughbred	12		
Total	698	26,86	10.97
Ponv			
Shetland	9	-34	.14
Draft			
Belgian	133		
Clydesdale	41		
French Draft	261		
Percheron	1342		
Shire	114		
Suffolk	1		
Total	1892	72.80	29.73
Total purebreds	2599		40.83
Grades	3766		59 17
Total Stallions licensed	6365		

TABLE II.

Relative proportions of light horses, ponies, and draft horses standing for public service in various States.

STATE.	Year of License.	Type of Horse.	Per cent, of Pure Bred Stallions.	Per cent. of all Stallions.
Pennsylvania	1908	Light Pony Draft Grade & Mongrel	47.22 .31 52.47	15.65 .10 17.38
Wisconsin	1906-S	Light Pony Draft Grade & Mongrel	36 20 •34 63 46	14.23 .13 29.94 60.70
Minnesota	To 1910	Light Pony Draft Grade & Mongrel	17.21 .20 82.58	6.36 30.53 63.03
Kansas	1910	Light Pony Draft Grade & Mongrel	26.\$6 -34 72.\$0	10.97 .14 29.73

The only stallions which can be considered as possible sires of remounts are those of the light type which are purebred. Ponies, of course, are out of the question, as most of those licensed are Shetlands; drafters also are obviously impossible and grades and mongrels must be discarded on account of their uncertainty as breeders. Therefore, according to the above figures, only 15.65 per cent, of the stallions available for public service in Pennsylvania are likely to sire foals of the army type, less than 15 per cent, of the stallions in Wisconsin, 6½ per cent, of those in Minnesota, and about 11 per cent, of those in Kansas would be suitable sires for this purpose. The data on which this statement is based are presented below in detail.

Stallions have been licensed for public service in Iowa since 1906, only purebreds being licensed. To May 1, 1909, 5,329 certificates and 722 transfers had been issued. The rank by breeds and percentage of totals was: First, Percheron, 42 per cent; second, Standardbred, 14.5 per cent;

third, Belgian, 12.5 per cent.; fourth, Shire, 11 per cent; fifth, French Draft, 9 per cent; sixth, Clydesdale, 5.5 per cent. The remaining certificates were issued for eight light breeds, Suffolk (drafters) and Shetland ponies, ten Suffolks and twenty Shetland ponies being reported. (Iowa Year Book of Agriculture, 1908, p. 838 et seq.) Expressed differ ently, 80 per cent of the purebred stallions of Iowa are drafters, and slightly less than 20 per cent are horses of the light type, suitable to sire army remounts. Iowa is the leading horse producing State of the Union.

TABLE III.

Stallions standing for public service, in various States.

Pennsylvania, stallions licensed for public service in 1908, from Cir. 6, Pennsylvania State Live Stock Sanitary Board.

EREED	Number	Per cent of Purebreds	Per cent of all
Light Standardbred	211		
German Coach	23		
Hackney	23		
French Coach	19		
Morgan	15		
Saddle	5		STATE STATE OF STATE
Thoroughbred Cleveland Bay	3	********	
Orloff	ì		********
Yorkshire	I		
Total	306	47 22	15.65
Pony	2	.31	,10
Draft			
Percheron	231		
Belgian	34		
Shire	30		******
French Draft Clydesdale	21		*** ***
Ciydesdate	21		** - *****
Total	340	52.47	17.38
Fotal purebred	648		33.13
Grades	1308		06.87
Total stallions licensed	1956		

THE BATTLE OF SHILOH.

By JOSEPH W. RICH.

In the July, 1911, number of the Journal of the U.S. Cavalry Association appears a review and criticism by "S. H. E.",* of a monograph entitled "The Battle of Shiloh," which review and criticism fairly calls for some reply from the author of the monograph. Assuming that the Journal will extend the courtesy of reasonable space for the purpose, the following is submitted:

The author is in full accord with his reviewer and critic in the hope that some day, "a dispassionate study of the Battle of Shiloh from the pen of a participant" may appear—if such a study has not already appeared. And it is further hoped that such a study, when it does appear, will find equally "dispassionate" readers among nonparticipants. These two conditions uniting would end all controversy about that battle.

It is charged that I have "suppressed" evidence that might be used to challenge the testimony of Grant and Sherman, in regard to the battle, and have "ignored evidence which might corroborate" Buell upon points in controversy. The reviewer and critic does not particularize as to evidence "suppressed," hence only a general denial can be made.

In regard to evidence "ignored" favorable to Buell one case is particularized, so specific answer is possible—and easy, for that matter. It is charged in the monograph that General Buell in his Shiloh Reviewed, written several years

^{*}The writer of the review in question is Major S. H. Elliott, Twelfth Cavalry, who reports this article as a well written and dispassionate reply to his criticisms of Mr. Rich's book. Major Elliott also states that owing to his time being fully occupied as an instructor at the Staff College, it is impossible for him, at the present time to make any comments on this reply as requested.

—[Editor.]

after the war, contradicted a statement made in his official report, written a few days after the battle, upon a point of some importance, namely, the effect of the gunboat fire at the close of the first day's battle, at Dill Branch. Officially, he said "the gunboats contributed very much" to the result. Unofficially, he said the gunboat fire was "harmless."

The reviewer and critic does not deny the fact of contradiction, but he seeks an explanation—the reason for Buell's change of mind. Now Buell did not refer to the particular "Confederate source" from which he obtained new light upon the subject, but my critic makes a guess and says: "He [Buell | doubtless had in mind the assertions of Polk (W. R. 10, p. 140, [410]), and Bragg (W. R. 10, p. 466)." The "assertions" of these two confederate officers, favorable to Buell, must, therefore, in the opinion of the critic, be the evidence which justified Buell's change of mind, and which the author of the monograph "ignored." That evidence is here and now admitted with the utmost cheerfulness, for what it is worth, and it would be quoted at length if space admitted. The most that can be done, for want of space, is to ask the reviewer and critic, to read more carefully than he appears to have done, the official reports of the two officers named, Polk and Bragg.

As to Bragg, a careful reading of his report shows that his first mention of the gunboats, like Polk's, applies to the situation about the Hornets' Nest, without saying anything about the effect of the fire. Bragg then says (after securing the Hornets' Nest prisoners), "the movement toward the Landing commenced with every prospect of success, though a heavy battery in our front and the gunboats on our right seemed determined to dispute every inch of ground" (p. 467). Not a word about the effectiveness of the fire of the gunboats.

Polk's first mention of the gunboat fire is at about 5 P. M., when the Confederate Army was coiling itself about the Hornets' Nest, one and a half miles from the Landing, having no reference whatever to the situation at Dill Branch. Later, when the advance was made toward Dill Branch, Polk's report shows that he did not know much about the

relative position of the contending forces. As they advanced, he says, the Union lines were brought between the Confederates and the gunboats—which was an absolute impossibility. As Bragg says, the gunboats were on their right, which is correct, and they fired up the ravine without the necessity of elevating their guns to any great extent. Bragg said nothing about the effectiveness of the fire, and Polk knew nothing about it, at Dill Branch, or he would not have placed them in the *rear* of the Union lines.

But here is the evidence of other Confederate officers, who were in closer touch with the situation:

Col. Joseph Wheeler, 19th Alabama: "During all of this movement" (toward Dill Branch) "the regiment was under heavy fire from their gunboats and other artillery." (W. R. 10, p. 559).

Gen. Chalmers, commanding a brigade in the last assault, says they "were met by a fire from a whole line of batteries, assisted by shells from the gunboats" (Ib. p. 550).

Gen. A. P. Stewart: Says he was ordered "to aid in the pursuit of the enemy, which was checked by the gunboats." (Ib. p. 428).

Col. Russell, 12th Tennessee: "The enemy's gunboats kept up an incessant fire of shot and shell," and he was ordered to "fall back out of range." (Ib. p. 418).

Col. Gibson, 13th Louisiana, commanding a brigade, says he was ordered by Gen. Ruggles "to retire from the fire of the gunboats," in which movement "considerable disorder ensued." (Ib. p. 480).

Gen. Withers, commanding the Confederate right at Dill Branch, says it was "by General Beauregard's orders * * that the troops were * * led from under the fire of the enemy's gunboats." (Ib. p. 534). None of these officers, who were in closest touch with the situation, had discovered that the gunboats were in rear of the Union lines—they knew exactly where they were, on their right flank, the big shells ploughing through the tree-tops up Dill Branch. And it will be found that these officers in their official reports more frequently refer to the fire of the gunboats than they do to the "other artillery" which they had to face.

The writer is utterly at a loss to understand the reviewer and critic when he says. "But Mr. Rich, who desires to show the impregnable character of the artillery defense behind Dill Branch, is obliged to exclude the gunboats as elements of strength." On the contrary, the gunboats were definitely included in the line of defense, on the "extreme left," and the evidence above quoted shows that they were not "harmless."

Again, I am accused with attacking "Buell's statement as to the hour" when he arrived at the Landing, using Villard, a discredited witness, against him. On the contrary again, Villard is mentioned in this connection only as a "plausible" witness, which, in plain English, means that he needs corroboration, and there being no corroboration, Buell's statement was and is accepted as correct.

In the opinion of the reviewer and critic, the really serious criticism of Buell is that charging him with "holding up" Grant's order to Nelson, but he fails to show that the charge is not true. He says it is "pure conjecture" as to the hour when the order was "reiterated." Admitted, but it is not important when it was reiterated—the important point is when did the march begin under the order.

To my question, left unanswered, "Why did General Buell do that?" my critic assumes to answer for me---"to prove to General Grant that his authority stopped short of the Army of the Ohio; to punish his presumption. * * * To risk the destruction of the Army of the Tennessee rather than abate * * his adherence to a military punctilio."

The answer put into my mouth is not accepted—the author of the question believes that the delay was mainly due to a characteristic of General Buell's, to unduly deliberate before acting, even in emergencies. In the writer's opinion, had General Nelson been free to act upon Grant's order, and had Colonel Ammen, commanding his leading brigade, asked, on receiving the order to march, "Is the road practicable?," he would have received for answer the same that he got at Duck River, a few days before. Colonel Ammen was ordered to cross the river early in the morning, when he asked, "Is the bridge done?" "No." "Are there

boats?" "No; but d—n you, get over." The brigade went over, wading waist-deep with its trousers and drawers slung in bundles on its bayonets. (Ammen's Diary, W. R. 10, p. 330).

It is assumed by my critic that the delay of Nelson's march was due to doubt about the road and difficulty in procuring a guide. Either of the causes mentioned may have had something to do with the delay, but since neither Buell nor Nelson referred to either of them as cause for delay, it seems rather unnecessary for a third person to urge them. It was demonstrated that the road was not "impassable"—not even very bad—for the march was made in good time—three and a half hours, according to Nelson, from Savannah to the top of the hill in front of the Confederate lines, which included ferrying across the river.

Another excuse urged in favor of General Buell is that probably he had not received the instructions from Halleck to the effect that Grant, in case of attack, would take chief command. The writer is free to say that probably Buell had not received such instructions—he has found no official evidence to that effect. He is free to further admit that under ordinary circumstances, in the absence of emergency, Buell might have stood upon his rights as commander of an independent army; but he does not admit that Buell was justified in delaying Grant's order on the grounds suggested, in the face of such an emergency as existed.

Fortunately we have a case in point in which the same two commanders were involved, wherein all courtesy, punctilio, discipline and everything of the sort went to the winds. After Donelson, General C. F. Smith, of Grant's army, occupied Clarksville, below Nashville. Buell had just reached the Cumberland River opposite Nashville, which the Confederates had already evacuated. Buell, fearing that the evacuation was a ruse to draw him across the river, believed that he should be reënforced before crossing; so without consulting either Halleck or Grant, he ordered Smith with his disvision to join him at Nashville, which Smith did. The incident drew from Halleck a sharp question, to his Chief-of-Staff, as to who ordered Smith to join

Buell. In this there was no "emergency"—scarcely a remote possibility of danger. The Confederates were hurrying from the army in their front as rapidly as possible.

It is asserted that Nelson must have had some "assurance of water transportation" from Savannah to the field of battle, and it is further asserted that "beyond question" such transportation was "available." The first of these claims is conjecture, and the second appears to be based upon a statement of Captain Ephraim A. Otis, in his monograph entitled "The Second Day at Shiloh," and Otis's information appears to have come from Colonel Ammen, both officers of Buell's army. Otis says that "no explanation * * has ever been given why a part of the fleet of steamboats lying at Pittsburg landing" was not sent to "bring up the advancing forces."

The answer to both Otis and Ammen is very simple—there never was a "fleet of steamboats" at Pittsburg Landing, except boats waiting to unload. The river was often "full of boats" waiting to get to the Landing, and it was not uncommon to see boats, far out in the river, discharging cargo across the bows of other boats, when it could be done to hasten the work. The writer speaks at first hand upon this point.

On the morning of the battle there was a small "fleet" at the Landing, loaded with infantry, artillery and army supplies, and the work of unloading was rushed with all possible speed, as may be guessed. When Colonel Ammen arrived opposite the Landing, about 5 o'clock in the evening, some of these boats—perhaps all of them—were unloaded and were ready to ferry his troops across. These boats were sent to bring up the next division of Buell's army, which had not yet arrived at Savannah when Nelson marched, at 1:30 P. M.

Now if my critic and Captain Otis desire to know why boats were not sent for Nelson's division, they will find the explanation, which neither seems to have discovered, in orders from Cullum (Halleck's chief of staff), to Grant, Grant to Smith, and Grant to Cullum (W. R. 10, pt. 2, pp. 26, 29). It was a standing order to "send back steamers as rapidly

as possible," and there is no doubt but that the order was obeyed. It must be remembered that the base of supplies for Grant's army was distant at least two to four hundred miles, and that it required about a week for a boat to make a round trip.

Further criticism is made because of lack of effort to locate responsibility for numerous "errors of omission and commission," in the management of the campaign and the battle. The reply is that the monograph was not intended to be a critical essay upon strategy, tactics, etc., but instead a plain narrative of the main facts leading up to and ending in the battle, about which much untruth had been written. and much truth had been omitted or perverted. The writer is free to admit that, in his opinion, at least "elementary precautions" against sudden attack should have been taken that were not taken, but he would not undertake to locate the responsibility, which was a very much divided responsibility, But while admitting this, it is insisted that the "expeditionary" character of the movement still existed, as is shown by the attempt made, April 1-2, to reach the Memphis and Charleston Railroad, by way of Eastport and Chickasaw Bluffs. The order to cut that road, if possible, still stood.

In regard to "absenteeism" or "straggling," nothing more need be said than was said in the monograph, except to ask the critic to take his pencil and add together the number of sick in camp—estimated by Major Dawes, whom he quotes approvingly on other points, at "nearly or quite two thousand," in Sherman's division alone; add the number of non-combatants necessary to provide for an army of 35,000: add the wounded coming in from a six or seven hours' battle, during which there was not a moment of time when the air was not rent with the crash of musketry and was not tremulous with the boom of cannon; then add attendants upon sick and wounded over and above the number required under normal conditions—if he will do that, he will find that he has a small army of men, legitimately at the Landing, when General Buell arrived, without counting a "straggler."

On the question of "surprise," the writer is not disposed to argue with his critic, but accepts his definition of

'surprise"—"to catch your enemy unprepared"—and claims that the definition gives away his contention that there was a surprise.

Any person who will take the pains to study the reports of Confederate officers will find them full of specific incidents of preparedness, in the Union Army, from the first contact with Hardcastle's pickets, before daylight in the morning, until twilight in the evening. The enemy found the Union Army "prepared" to an extent not expected. And, moreover, the enemy utterly failed to accomplish the main object of his plan of battle, namely, to turn the Union left and occupy the Landing, which General Johnston considered absolutely necessary to success. Johnston himself commanded the part of his army set to accomplish this necessary object, and he lost his life in the effort. Nothing more need be said on the point, except to ask: If it was a "surprise," and if the "absenteeism" was as some writers represent—from a third to a half of the army-and if the enemy, after thirteen or fourteen hours of fighting, failed to accomplish its main object, what must be said of the fighting qualities of those who remained with the colors, in The Army of the Tennessee, on that Sunday?

The reviewer closes his review touching briefly several points, which can be answered with equal brevity. Of the author's treatment of the battle of the second day, he says: "Being the Army of the Ohio's victory, he dismisses [it] in a paragraph of forty-four lines." The fact is as stated, but not the inference evidently intended—that the brevity of treatment was due to prejudice against Buell and his army. On the contrary, the brevity of treatment was due to the fact that no serious dispute has ever arisen about the second day's battle.

The reviewer properly corrects the statement that the Colonel of the 71st Ohio (Mason) was cashiered for conduct at Shiloh—it was for surrendering Clarksville, Tennessee, in August, 1862, but the reviewer makes an incorrect reference to official records, "(W. R. 22, pp. 862, 865)" should be

W. R. 16, pt. 1, pp. 862, 865.* My authority for the statement in the monograph was "Ohio at Shiloh, p. 38," which was supposed to be reliable.

No "new facts" it are asserted is found in the monograph: "It is most interesting but it is not history. It is a special plea for the Army of the Tennessee."

As to "new facts" about the Battle of Shiloh, there are none—what the author tried to do was to correlate old facts in such a way as to show them in proper relation. If that is not history, what is it? Very strangely, my critic has not even attempted to disprove the facts adduced. As to a "special plea," the Army of the Tennessee needs none—it only needs the truth set in proper relation.

In regard to John Codman Ropes, my criticism of his work is not due to prejudice, but to his perversion of facts, which perversion it would not be at all difficult to show, were this the proper place to point them out.

^{*}Both of these references are correct. The author gives the reference by the volume and part and Major Elliott by the serial number of the volumes of the Rebellion Record.

Editor.

NOTES ON THE PROGENITORS OF CERTAIN STRAINS OF THE MODERN AMERICAN HORSE.

BY VETERINARIAN COLEMAN NOCKOLDS, FIRST CAVALRY.

(Continued from the March, 1911, Fournal of the U.S. Cavalry Association.)

THE American thoroughbred is a direct descendant of the English race horse.

No animal having an unknown or cold cross within a hundred years back in its line can be entered in the English Stud Book, and no American horse can be regarded as thoroughbred that does not meet as high requirements. A number of high class race horses whose pedigree have been short in one or more lines have run well, but never in the history of the turf has a great sire appeared in whose blood was a near cross other than thoroughbred.

Although first of all the thoroughbred originated from the admixture of Oriental blood with the best old English blood, probably Spanish by descent, the impure admixture is so exceedingly remote, not within fourteen or fifteen generations, that the present thoroughbred of the United States cannot possess above one-sixteenth thousandth part of any but desert blood.

Of the superiority of the modern thoroughbred to that of the present horse of the East there is no doubt. It is shown as much in his quality and power as in size, bone, strength, weight and carrying abilities.

When and wherever he has encountered the Oriental horse this has been proved, and no cross of the later blood has in the smallest degree improved our race horse.

The position of the American blood horse is unique in that he stands alone in this country as far as family is concerned; unlike the human race in the United States, unlike the ordinary types of horses or cattle and most other domesticated animals of North America, which cannot be traced or said to belong to any one distinct breed or family, having originated from the mixture, combination and amalgamation of many bloods and stocks, derived from various countries, he is undoubtedly of pure English thoroughbred.

It is believed that no Barb, Arab or Turk imported into this country has ever got a horse of any true pretensions on the turf, or has ever been the winner of any important race; and yet a considerable number have been introduced, many of them gifts from sovereign potentates to different Presidents, reputed to be of the noblest breed, and surely, as regal gifts, presumably to have been of true blood.

The earliest racing occurred in Virginia and Maryland, and various breeds of horses were used; a horse called Brilliant was imported into Virginia in 1706; he was foaled in 1691, and was by Phenomenon, dam by Pacolet, g. g. dam by Matchem, g. g. g. dam by Oroonoka, and g. g. g. g. dam by Traveller, etc. The authority for this is not known.

To a limited extent racing took place as early as the middle of the seventeenth century in Virginia, Maryland, and the Carolinas. The horse Bully Rock, by the Darley Arabian, out of a mare by the Byerly Turk, grandam by the Lister Turk, g. g. dam a royal mare, is the first recorded importation of a thoroughbred horse into America. He was imported into Virginia in 1730.

In 1723 the Duke of Bolton bred a mare named Bonny Lass, by his celebrated horse Bay Bolton, out of a daughter of the Darley Arabian. She became famous in England as a brood mare, and was the first thoroughbred mare according to records that was brought to this country. This is supposed to have been in or after 1740, as the stud book shows she produced in England, after 1739, a filly by Lord Lonsdale's Arabian, and subsequently became famous in England to the public as the grandam of Zamora.

Most of the inhabitants of the colonies at this time were either from the British Isles, or descendants of parents who had immigrated from them, and they inherited a taste for sport. The result was that the importations increased very rapidly, and many valuable shipments of horses were made before the war which resulted in a separation of the colonies from the mother country.

The animals imported were generally of the best stocks in the United Kingdom, and it was soon realized that the climatic conditions and general surroundings, were favorable to the greater development of the blood horse.

What may be termed the old time thoroughbred of the colonies, was in every respect a stouter, larger and more pure bred animal than the English animal of that time.

Very few, except the very best strains were shipped in those early days and fewer generations were needed to reach their oriental parents, than the majority of English horses of the same date, and they showed more fully the general characteristics of their ancestrial Barbs, Arabs or Turks.

Comparing the feather weight sprinter of to-day with the old time long distance horse, it must be borne in mind that the horse of to-day is used and raced as a yearling, or at the latest as a two year old. He is stuffed full of grain from the time he can eat it, and generally pampered and forced to maturity, with a view of earning as much money, in the shape of stakes, prizes and bets as possible and at the earliest opportunity. Under the same conditions as the old long time distance horse was handled, running in the paddock and doing no work, with an occasional hand full of oats, a little leading with the haltar, but not backed to any extent, the horse of to day is a better horse, and has not as is often said degenerated, but the cruel habit of bringing horses out too soon, naturally wears them out before they have a chance to develop, and it is only the one here and there that is able to stand the strain. The majority break down and are got rid of by their owners because it is a dead loss to keep them.

Childers and Eclipse did not appear until they were five years of age, but many of our best horses of to-day, and those perhaps which could have shown equal excellence with the best racers of the old school are foundered and destroyed before that period.

Now-a-days it is rare to hear of races of more than two

miles, yet it is but a few years since the fastest four-mile record was made, also the fastest time for one and two miles. In the old time horses ran often not more than five or six races a year --often less. The races were over longer distances, but the horses were specially trained for them, and as handicaps were few, the best horse had a pretty easy time. Besides the number of horses was small. In 1880 there were 640 foals, in 1900 as many as 3,876 were reported to the Jockey Club.

A good horse of to-day runs from fifteen to thirty races a season, meeting a large number of competitors, is asked to concede weight, and is kept in training fully nine months of the year. As far as time goes there is no comparison be tween the horses of to-day and those of former years.

Handled properly the thoroughbred of to day could make the same number of four mile heats, carrying the same heavy weight, in less time than the cracks of the olden times did; in like manner that animal could march further, carry a heavier load and become more amenable to discipline than any other breed or type of horses in existence.

The following Derby winners were among the animals brought into this country during the early days: Diomed, who in 1780, won the first Derby; Saltram, winner in 1783; John Bull, winner in 1792; Spread Eagle, 1795; Sir Harry, 1798; Archduke, 1799; and Priam in 1830.

Among the most important and valuable early importations were Jolly Roger, Fearmought, Medley, Shark, Traveller, Diomed, Glencoe, Leviathan, Tranby, Lexington, Margrave, Yorkshire, Buzzard, Albion and Leamington.

The best results have been obtained from Diomed and Glencoe.

Diomed sired one horse, Sir Archy who founded a family to which nearly all the blood horses of America date back. He was foaled in 1805, in Virginia, and became celebrated as a sire.

By refering to the Stud Book, it can be ascertained that there were many sturdy, long distance weight carriers and it should be borne in mind, that a thoroughbred, to be a good reliable animal to breed from, or for use as a remount, must have ancestors that were of a type or family noted for their powers as stayers, or they will never come up to expectations as chargers.

There are numbers of the descendants of those strains of thoroughbreds that were sturdy long distance horses, scattered about in different parts of the country, and need only proper training and management to develop them into first class cavalry remounts.

Many pages, even volumes might be written of the accomplishments, doings and breeding of these animals, if it were feasible to write of each individual or their families, but taken at random, such horses as Medley, imported to Virginia in 1783, whose get included, Atlanta, Bel-Air, Boxer, Calypse, Gray Diomed, Gray Medley, Lamplighter, Opossum filly, Pamdora, Quicksilver, Virginia and others, all known for their staying qualities with weight, all have descendants of the same order.

Shark foaled 1771, and imported to Virginia, was the father of Americus, Annette, Black Maria, dam of Lady Light-foot, Oppossum, Shark, Virago and many others. This particular Shark, was by Marske, out of a Snap mare, g. dam, Wags' mare by Malborough, out of a natural barb mare. He was imported into Virginia in 1786 and laid the foundation of the famous Snap blood.

It is somewhat confusing that there were a number of horses of the same name on the American Turf at different and sometimes at the same time. There were no less than three well known Sharks; the imported Pearces' and a Shark by Eclipse, and it is well, when looking over the Stud book for histories, to bear this fact in mind.

As a sample of the staying powers of the old time racers, although perhaps not the fastest on record, the following account of a race between a grandaughter of the Black Maria, by imported Shark, and also named Black Maria, may serve of interest. She was the property of Charles Henry Hall Esq., of Harlem, New York, and was foaled on the 15th of June, 1826. According to an article in the Turf Register, of December 1832, the race took place on the Union Course, Long Island, on Saturday, October 13, 1832, for a Jockey

Club purse of \$600.00, and was run in four mile heats. There were four animals that started, viz: Black Maria, by Eclipse, out of Lady Lightfoot; Ch. M. Lady Relief, by Eclipse, out of Maria Slamerkin; Ch. F. Trifle, by Sir Charles, dam by Circero; B. F. Slim, by Flying Childers, out of Molly Longlegs. Black Maria aged six years, 121 lbs; Lady Relief aged five years, 114 lbs; Trifle aged four years, 104 lbs; Slim aged four years, 104 lbs.

"As the trumpet sounded for the horses to come to the starting post, they severally appeared, exhibiting their vari-

ous tempers by their individual behavior.

"Black Maria showed neither alarm or anxiety. She was as calm and unimpassioned as if she had been a mere spectator. Trifle exhibited high spirits brought down to a proper degree by judicious handling. A slight tremor ran through her frame; and an impatient lifting of the fore foot now and then, showed that she was alive to the coming struggle. Lady Relief, on the contrary, was all fire and animation, ready to break away from her groom, and dash through all obstacles for the sake of victory. Slim exhibited an impatient spirit, and seemed, by her anxiety to show herself a descendant from that Childers who always ran without whip or spur.'

"At the tap of the drum the four went off well together, Relief taking the lead within the first quarter, closely followed by Slim, then by Trifle, and last came Black Maria. The first mile indicated a waiting race, as all the riders had their horses under the hardest pull; each seeming desirious that his antagonist should take the lead. Trifle impatient at such trifling, began to make play, and this aroused Black Maria, who was trailing along quietly, behind the field. With a few huge strides, she brought herself to the front, passed the whole before she came to the judges' stand, followed closely by the gallant little Trifle, who stuck to her like an accompanying phantom. At the beginning of the third mile the leading nags made play, and during the whole of it Maria held the lead, followed by Trifle, while Relief and Slim were, at quite a distance behind. After passing the judges' stand entering upon the fourth mile. Trifle made a

dash and got the lead, but within a short distance from the winning post, Black Maria made a dash and won with quite a gap, between her and Trifle, and a much greater one between the latter and hindmost horses. Time first heat, 8:06.

"At the start for the second heat Black Maria appeared calm as is usual with her, while Trifle and Lady Relief were all animation.

"They went off as if the heat was to be won by running instead of waiting as in the first heat; Relief taking the lead followed by Slim, then by Trifle, while Black Maria brought up the rear.

"Trifle passed Relief and Slim during the first mile, and Black Maria taking advantage of a rise in the ground thundered by them all, with her long strides and took the lead, followed closely by Trifle while the other two dropped behind, at the end of the third mile (seventh), Miss Slim unable to stand the pace, flew the track and quit the race. Maria led Trifle to the finish of the fourth mile and they passed the stand at a dead heat. Time 7:55.

"At the sounding of the trumpet for the third heat Trifle and Relief came up in great spirits, while Black Maria seemed in no way ambitious for another trial.

"At the tap of the drum Trifle and Relief went off from the score, leaving Black Maria some distance behind. She lessened the gap in the course of the first mile, but Lady Relief held the lead up to the last quarter when for some unaccountable reason her rider pulled her up and Trifle shot ahead and won the heat. Time, 8:13.

"They saddled for the fourth heat; and here is to be a struggle until sixteen miles from the beginning are accomplished. Black Maria is in no way distressed, Relief is full of spirits, but Trifle is to win the money! Off they go; Relief takes the lead followed by Trifle and then the Black. Miles are passed over and yet Relief is ahead, at the third mile the Black overhauls Trifle and is close at the heels of Relief, but they pass the stand Relief winning the heat by a neck. Time, 8:39.

"Up they come for the fifth heat; Relief all afire, Trifle very sorry, and Black Maria now begins to paw the ground!

This she had not done before. Off they go; Relief ahead, Trifle after her and Black Maria allowing no gap. She sticks to them like a spirit, and in the nineteenth mile the gallant little Trifle is reluctantly compelled to give up. The Eclipse mares are determined to play out the game! Now comes the struggle for the honors of the twentieth mile, between two half sisters—whalebone both 'and never give up' is the word. Black Maria pushes up the straight, entering upon the twentieth mile with a stride that counts terrible upon the steps of the Lady, the black is so close that she almost touches her heels, and in the last quarter gives her the goby, takes the track and keeps it in spite of all exertions, leads round the turn and thunders up towards the judges' stand hard in hand, untouched by whip or spur, passes the goal for the twentieth time and wins the race. Time, 8:47.

"It may be remarked that in consequence of the rains which had prevailed for several days previous to the race, the track was unusually heavy; so much so as to make a difference of several seconds, probably in the time of a four mile heat."

Black Maria is described as a glossy, jet black mare without a white mark, fifteen hands two inches in height, small head tapering towards the mouth, ears very small and pointed, rather a delicate, long neck, but well set on, and clean but straight shoulders; high withers, long powerful arms and short flat cannon bones; good knees, neat pasterns and perfect feet; great depth of chest, rather light and tucked up in the flanks, and too long coupled. Arched loins, good, slightly drooping quarters, very muscular thighs, and strong gaskins with clean hocks. Unsightly hump between the hip bones. The thin long barrel and hump were decided objections to judging her to be a weight carrier and long distance horse, but the history of her running life proves that horses can run in all forms.

Of old time records for four mile heats, Lexington's against time, run at New Orleans, on April 2, 1855, in seven minutes nineteen seconds, and Lecompte's, who ran four miles at the same place in seven minutes, twenty-six seconds, stand well to the front. There were many others, but it suf-

fices to show by the above that the animals concerned had plenty of stamina and could have stood any ordinary military service as cavalry mounts, which they might have been called upon to perform.

At this particular time, when there is such an outcry against running races all over the country, it should be remembered that the result of racing and race courses was the thoroughbred horse. Racing in the first place was not originated with a view of prize and money winning, but as a test as to which horse was the best, with the ultimate object of choosing the best wherewith to improve the breeds of animals common to the country. From this came the thoroughbred, and breeds of horses, except for slow draft, are only improved by the introduction of thoroughbred blood into their veins. For this reason alone, racing horses and race courses should be tolerated, encouraged and kept up. If this is not done there will soon be no thoroughbred stock in the country and the result must be a deterioration of the questionable quality of the horseflesh already composing the ma jority of our animals.

There seems to be something in the aristocratic blood that inspires the thoroughbred with an indomitable pride and courage.

To look at him is but to admire him as he walks "rejoicing in his strength," but he is bound to degenerate in character and value under the present prejudice against racing, which prevents all stimulus to virtue by allowing no reward to ambition nor restraint upon its vicious indulgence. It is a silly mistake to think that the prevention of public exhibitions in racing will do away with horse racing. However, it will tend to prevent the breeder from the chance of improving his stock, and for the simple reason that no one is going to take the trouble to keep up the records of most authenticated animals without some object in view. It certainly will be harmful under the conditions which will follow with no stringent rules to prevent frauds, and which all public racing associations have been so careful to enforce.

There is one advantage from a remount standpoint which is gained by this absurd disencouragement of the

breeder, which is that horses that were high priced are now sold at a figure lower than the common plug can be bought for.

For breeding to a type, no animal but a thoroughbred should be considered. It must be a horse that has had ancestors worthy of the name. It may be that under the present trend of affairs, as regard the thoroughbred, that such horses will not exist in a few years, and we will again have to look to foreign nations for them if needed. Of course this only applies to the sires.

With our system of equestrianism, the thoroughbred is a most unsuitable animal with which to mount our army. This, of course, does not apply to some few officers who are horsemen and are willing to take the trouble of having their mounts cared for. But even then it must be a suitable mount

to start with or disappointment will ensue.

Those animals that are often sold off the track in their third or fourth year at a figure somewhere below or a little above the hundred mark because they are broken down or cannot win a race are, as a rule, utterly worthless as mounts. They were most probably ruined as yearlings or at the most two-year olds. However, provided their family histories are good, they cannot be improved upon as breeders to start from. The public who have to do with horses recognize the fact that they are useless for work or saddle purposes, and they pay more for a mongrel bred animal simply because the cheap cast off thoroughbred is unable to stand the constant wear and tear required to pull a peddler's cart, a buggy, or of hack and livery work. He is also a failure as a rule for military service.

The ordinary common horse that is to be bought in the open market, in spite of having a couple of years of feeding and training in the best remount stable, is, as a rule, far below the standard of what a remount should be for efficient military service. It is somewhat on the order of expecting a crow to become a peacock, just because the crow is stuck full of peacock, feathers. Often the same thing happens when the horse that is bought on chance is expected to do the service of a better animal because he is pleasing to the

eye, that happened to the frog that .Esop writes about. When the frog tried to show his companions how big the bull was that he had seen, he puffed himself up that he burst. The non efficient remount does not, as a rule, burst, but he is often shot within a year, and more often sold with the smaller part of a years' service to his credit.

That the thoroughbred has been found to be the only sire that can be depended upon to improve all and every class of horses except the heavy draught horse, there is not the slightest doubt. All authorities on breeding acknowledge this fact in connection with breeding light harness horses and saddlers, many different bloods have been used to improve or produce certain types, but without the infusion of thoroughbred blood at different times almost every type has degenerated.

It is natural when considering the qualities of the thoroughbred, to think only of racing and speed and often this animal has been under valued for other purposes. The utility of the horse that has speed only is questioned for quickness of working; power and ability to move, carry weight and endure for a length of time; to travel for a distance with the least decrease of pace; to come again to work day after day, week after week, and year after year, with undiminished vigor, one must depend upon the horse that has the greatest possible amount of bure blood compatible with size, weight and power, according to the purpose for which he is wanted.

Speed alone is not the only good thing derivable from blood. The blooded horse possesses a degree of strength in his bones, sinews and frame at large that is utterly out of proportion to the size or apparent strength of that frame. The texture, the form and the symmetry of the bones, all in the same bulk and volume, possess double, or nearly fourfold the elements of resistance and endurance in the blooded horse that they do in the cold blooded cart horse.

The difference in the form and texture of the sinews and muscles, and in the inferior tendency to form flabby, useless flesh, is still more in the favor of the blooded horse. The internal construction of his respiratory organs, of his arterial and venous system, of his nervous system and constitution generally, is responsible for the greater vital power, greater recuperatory power and greater physical power in proportion to his bulk and weight than any other known animal. This added to greater quickness of movement, greater courage and greater endurance enables him to withstand more hardship and suffering and he has more gameness than will be found in any other of the horse family.

All thoroughbreds do not have all these qualities in an equal degree, for there is much or more choice in the blooded horse than in any other family, and it is essential to find from records, the stud books, and breeders and others up in this particular horse lore before deciding whether an animal is suitable or not for the purpose for which he is needed.

The cavalry of the principal military nations of Europe receive their remounts from depots, and districts, in which the authorities have been striving to obtain, by the judicious crossing of certain breeds of horses, a typical animal for military purposes.

At some of the breeding stations, they have succeeded in obtaining genuine types. This is especially true of the Hungarian, German and Austrian studs. In every country in Europe the English thoroughbred has been the animal, that is used as the sire and always to improve breeds. Russia has a considerable number of trotters that are used for stud purposes, while the Arab sire is the most common in Turkey.

In those countries where they have obtained types for remounts, the old Norfolk trotter played a prominent part; and so did several kinds of half-breeds, as the Anglo-Arab, the English half-breed, and the hackney. These were crossed with thoroughbred studs, and even after a type became fairly established, fresh blood from the pure blooded horse was infused from time to time, to prevent reversion to the coarser side of the breed.

The great reputation that Canada has gained in the light harness and saddle horse markets of the world, and in supplying the very highest class of remounts for the British army is owing to the extensive use of the "blood" horse in some sections of the dominion. Within a radius of twenty-five miles of the city of Toronto, for instance, there were reported, in 1895, sixty-odd thoroughbred stallions in service principally, almost entirely, to farm mares.

The animal known as the "Waler" from Australia is quite a good type for a remount. Even the animals shipped to the Philippines for the army have proved fairly satisfactory, although, the majority of them were of the cheapest obtainable grade of the kind to be found in the colony. They are the get of thoroughbred sires.

West Virginia and some sections of Missouri breed a class of horses, that make very good remounts, by breeding, bred up mares with thoroughbred sires.

The difference between the open market purchase system of France and England and our own lies in the fact that those mares and other animals that are bred to the government studs, and otherwise, are all registered and kept track of by the authorities and only those that are suitable and whose family histories are known are purchased by the buyers for the army.

There is no more suitable place in the world than some sections of the United States, where the climatic conditions are ideal for the favorable development of high grade horses, being warmer and drier than most European countries. Especially is this true, compared with the British Isles, where it is only by eternal vigilance that the standard of the English horse is kept up.

It takes about fifteen years of constant attention to detail, to produce a type. Nothing should be left to chance, and no experiments should be tried. Other nations have paid for them, and we should profit by their experience, and follow their example only along the lines in which they have been successful. It is necessary to produce a type, to have that particular animal which is wanted constantly, in mind.

On no account until the type of animal required is produced should other than thoroughbred sires be used, and even then the blood horse is often required, when signs of retrogression are apparent.

There are many strains of horses in this country, the mares of which could be used to start with, but those with most pure blood in their veins would be the best, with the exception of thoroughbreds and trotters, the first because thoroughbreds are too fine for our ordinary military uses, the second because they are very likely to be thoroughbred themselves.

Mares from families that are well known, like the Morgan, hackneys, saddlers, and even the common broncho, would be very good selections, to start the first crosses with thoroughbred sires. Although the breeding of these families is practically unknown, the history of the families for many years, has shown the best of them to be at least equal to the half-breeds of Europe for all ordinary purposes, and by careful attention to all details as to crossing, developing and weeding out, a gradual improving class of animals would be the result.

ORGANIZATION AND TACTICAL USE OF MACHINE GUNS WITH THE CAVALRY.

By CAPTAIN E. M. LEARY, ELEVENTH CAVALRY.

GENERAL PRINCIPLES.

I T is agreed by all authorities that machine guns in use with the cavalry should be able to accompany that arm wherever it can go.

They should form as inconspicuous a target as possible when in action because the noise of their firing is itself likely to disclose their location to the enemy's artillery.

The guns should have a firm, steady mounting, suitable for uneven ground and from which the gunner can point and fire from a sitting, kneeling or lying position. The weight must be such that the gun or mounting or both, can be carried by one or two men for a considerable distance or even dragged in an emergency by a single man crawling for a short distance. They should be able to get into action swiftly; this applies especially to machine guns in connection with mounted action of cavalry.

The armies of the world have endeavored to combine as many as possible of these desirable features.

In regard to the guns, armies are pretty evenly divided between the Hotchkiss and the Maxim types, but several countries have more than one pattern of gun in use.

There is possibly no military subject, except aviation, in which so many of the ideas of ten years ago are now completely out of date, as in the subject of machine guns.

Austria's gun, the Schwarzlose, is an instance of the development, and one result of trials going on in all directions. Much of this development is, naturally, kept secret.

Simplicity, lightness and ease in reparing during action are the main objects striven for in the development of the gun.

HOW SHALL THE GUN BE CARRIED WITH THE CAVALRY?

Pack Transport vs. Wheel Transport.

Advantages of Wheel Transport:—The guns are mobile on good roads, are ready for fighting at all times and a large quantity of ammunition can be carried along with the gun itself.

Disadvantages.—The great disadvantage is that the firing height is fixed and therefore the guns present too noticeable a target in the open. This disadvantage was noticeable during the Boer War. The British high carriage was worked all right in wars against savage tribes, who had no artillery and only defective firearms, but against good shots like the Boers, who also had artillery and used it, it was a different matter. At Modder River the machine guns of the Scotch Guards were, it is said, quickly silenced at 900 meters; at Magersfontein those of the Seaforth Highlanders at 600 meters, and at Rietfontein that of the Gloustershire battalions at 900 meters. (Mitteilungen uber Gegenstande des Artilleric, U. S. W. 1909, M. I. D.)

Mobility of Wheel Transport.- In the Russo-Japanese War it was found that wheel transport could not be depended upon to follow cavalry over mountainous or rough country. During the advance of Prince Kanin's Second Japanese Cavalry Brigade, on the 9th of October, across the Tak Ka-Hoschi, on Chao Tao, his machine gun detachment, using wheel transport, could not follow this route, but had to make a long detour under the protection of a platoon of cavalry. Again, on the morning of the 12th of October, when the brigade advanced from Chao Tao over the Chun Chulien Pass, to participate in the action of the Twelfth Division in the Bonsiku region (Pen Chi Ho), the pass was found impassable for vehicles. The machine guns, this time with improvised tripods together with the necessary ammunition, were carried by the men over the pass. This is why they arrived in time to participate in the action with the cavalry brigade. (Mitteilungen uber Gegenstande, U. S. W., M, I. D.)

The Japanese changed, even during the war, with good results, many of their detachments from wheel to pack transport and used the tripod.

The Advantages of the Tripod Mount.—It is of light weight, can employ various elevations fitting the ground, it is suitable even on hard ground, furnishes a small target and is easily put on pack animals.

The Russians also found that wheel transport did not

prove satisfactory during the war.

The Russian wheel carriage was similar to a gun carriage with a limber.

Kuropatkin says: "The Russian type of weapon did not satisfy tactical requirements (1) as regards it weight, and (2) as regards its adaptability to the ground. Our high unwieldy weapons with their shields more resemble light field guns and their unsuitable construction combined with the difficulty of adapting them to the ground was responsible for the idea that these guns should be organized into batteries and be treated and used as artillery. Such an opinion was absolutely wrong for the great volume of fire which they can deliver calls for their distribution at the most important points along the firing line and therefore a capability of advancing with the assaulting column. A pattern must be invented that could be carried even into the outpost line. The organization of our machine gun companies did not meet the above tactical requirements. Each battalion should have four guns." (The Russian Army and the Japanese H'ar.)

The Russian cavalry now have machine guns with pack transport.

The United States having adopted pack transport, is therefore in line with the nations who have had most recent experience with machine guns. In fact the majority of foreign nations have adopted pack transport for their machine guns. Moreover, while England and Germany have been the last to cling to wheel transport for their cavalry machine guns, on the ground that these are always ready for action and therefore capable of the swift surprise fire which should be a characteristic of the use of machine

guns with cavalry, yet even these powers now are swinging into line with the others in this respect, or at least realize the necessity of utilizing pack transport in mountainous country.

PERSONNEL.

Because of the possibility of getting out of order in action machine guns are generally used in pairs.

The platoon of two guns is therefore the smallest tactical unit and these should have an officer solely responsible for its training and efficiency. On the same principle that keen, young officers are selected for duty on torpedo boats, the officers of machine gun detachments should be selected men, and if possible should have completed a course at the School of Musketry in that class of work.

A machine gun platoon, two guns should consist of the following strength: One officer, one sergeant, two corporals, and twenty privates more or less, according to the transport used.

THE UNITED STATES CAVALRY ORGANIZATION.

(Provisional.)

In the United States cavalry the machine gun troop consists of three platoons of two sections each. The officers detailed by the regimental commander, consists of a captain and two lieutenants commanding platoons, the first sergeant commanding one of the platoons.

The men are grouped into sections under the immediate control of a con-commissioned officer who is responsible for the training, discipline and order of his section, and who is trained as chief of the gun section.

The war strength consists of seven sergeants, seven corporals and seventy-two privates, six guns, thirty pack mules and two field wagons. The grain being carried in the squadron headquarters wagon.

It is believed that a more mobile and efficient organization would result, if each gun section, or at least if each platoon be given an extra pack animal to lighten loads of the section pack animals, by carrying certain tools and square parts transported by them, as well as some intrenching tools.

Should pack transport instead of wagon be used for rations and forage, four mules will carry two days' rations for the command while thirteen mules will be needed for the forage (grain) for two days. Except in raids or campaigns in mountainous country, wagons will probably be satisfactory for hauling supplies, since the machine guns will accompany larger forces of cavalry, and trains can follow other trains on the road. Two wagons do not divide up well, however, among three platoons, any of which is likely to be detached on short notice during active operations. With these exceptions our organization seems well abreast of the progress being made in the armies of the world.

TRAINING.

Failure in the use of machine guns can be traced to two causes: 1. Insufficient training; 2. Improper tactical employment. The first particularly concerns the personnel.

SCOUTS.

Since, in cavalry fights, the guns frequently come into action well out to the flank, the platoon must have its own scouts trained for near-by scouting at least, and its personnel must be trained to select good positions for the guns.

THE GUNNER.

The gunner has the direction of a cone of bullets which at least equals the fire from fifty rifles; therefore the efficacy of machine gun fire depends upon the thorough firing training of the gunner.

- 1. The gunner must discover the target quickly.
- 2. He must be well practiced in handling the gun in every position.
 - 3. He must estimate the range accurately.
 - 4. He must observe the effect of his fire.

Only picked soldiers, of good physique, spirit, energy, and especially good eyesight, will do as gunners. In fact, a

large proportion of the men should possess these qualities, since the gun-pointer bears no charmed life.

Aiming exercise must be constantly carried out against horizontal, vertical and inclined lines of targets. Much ball firing practice must be had. The whole detachment must be well trained in estimating distance.

PRACTICE IN MAKING QUICK REPAIRS.

A good suggestion of Captain Applin, late instructor, School of Musketry, South Africa, and D. A. S. G. (Musketry, Malta), is that in training the gun platoon in firing there should be caused a few artificial "failures" to test the efficiency of the men. These "failures" can be brought about by the officer himself on the range without the knowledge of the detachment, and timed by him, the record time for the remedy of each failure being posted as an incentive for the men. Such artificial failures can be caused by loosening a bullet in the cartridge or slightly flattening a cartridge so as to cause it to jam in the chamber, by introducing a blank cartridge, etc.

The 1910 Drill Regulations for Cavalry Machine Gun Organizations, U. S., enumerates the methods of reducing nineteen different kinds of jamming. It is evident that practice alone can insure ease and rapidity in reducing a jam during action.

In this connection a comparison of the Maxim and the Austrian Schwarzlose guns is pertinent:

MAXIM.

Weighs sixty pounds without, 180 pounds with gun mount. Can be carried by two men at a walk a short distance. Has thirty-five parts, fourteen springs, fifty-two screws and bolts. Any trouble with gun is hard to locate.

SCHWARZLOSE,

Weighs thirty-seven pounds without, seventy-seven pounds with gun mount.

Can be carried by one man some distance. Has seventeen parts with two springs only. Easy to take apart without instruments. Easy to replace parts.

Only one man required to work gun.

Certain feeding of cartridges.

Even cartridges protruding or receding in belt are accurately fed, outclassing all other guns in this respect.

Tripod mount gives height of fire only ten inches, hard to see.

Every kind of cover can be utilized.

Locking mechanism will work faultlessly even under higher gas pressure. Pack saddle No. 7 can be fitted perfectly to any pack animal. It conforms so well to the body of the animal that he can follow troops over any ground.

Guns, ammunition, etc., cannot fall to ground through fault in packing. (Mitteilungen uber Gegenstande, U. S. W., 1909, M. I. D.)

The Japanese had at first green detachments for many of their machine guns. The effect of experience is indicated by Captain Matsuda (who commanded the machine guns with Prince Kanin's Cavalry Brigade) as follows: "Whereas, at the battle of Peu-Si-Lau on October 12th we had some trouble after firing 1,800 rounds; on March 3d the guns of one section, after firing 11,000 rounds, continued to work perfectly. The gunners were absolutely familiar with their weapons. (Machine Gun Tactics, Captain Applin, D. S. O)

JOINT MANEUVERS.

Joint maneuvers with other arms are absolutely essential to the training of machine gun troops. The other arms can thus also learn the possibilities and limitations of machine guns and be trained to use them in the most efficient manner. In Japan the commanding officers of machine gun organizations take part in the regimental work of the cavalry, then participate in the scouting maneuvers together with the cavalry divisions, then finally take part in the imperial maneuvers.

Our machine gun troops must not only never get out of touch with the organizations to which attached, but they must be diligently used together with these organizations in all kinds of tactical work.

In the past, machine guns at maneuvers have had a great handicap in being "silent," because blank cartriges were not suitable for the arm. It is to be hoped that some method of obviating this difficulty will be devised. Rattling pebles in a can, to simulate fire, ought to be improved upon in this inventive age.

SEPARATE ARM OR NOT?

The Germans who have studied the question of machine guns with their usual thoroughness, make them a separate arm of the service with the idea of increasing efficiency by the development of specialists.

Captain John H. Parker, U. S. Army, who commanded the gatlings at Santiago de Cuba, in 1898, arrived at the same conclusion at that time. He says: "Special aptitude, special talents, special characteristics, are necessary, as well as special training, for the proper service of machine gun."

However, this is still an unsettled question. Officers of most recent experience with the arm are divided in their opinions on the subject. For the cavalry it is believed to be better to retain the machine gun troops attached to regiments. This insures a reciprocal understanding between the regiment and the auxiliary arm which it will use in action. Moreover in a brigade or division, the commanding general can if need be concentrate the guns.

At Mukden on March 1st, all the machine guns of a whole division were brought into action against a Chinese farm house adjoining shelter trenches which the Russians were using as a supporting point. As soon as the machine guns began firing the Russian fire ceased, breaking out anew when the machine guns paused. The Japanese utilized these enforced pauses in the enemy's fire to advance to closer range under protection of their machine guns, and without being fired upon during their rushes. On March 5th the Japanese Guard Division placed fourteen machine guns in the foremost line to support the attack. The same tactics ought to be effective in a dismounted cavalry fight and also in some combined mounted and dismounted actions; but it is thought that the control of fire direction of a long line of machine guns, after the manner of artillery, will be much rarer in cavalry actions even than in those of infantry.

The necessity of making the machine guns an entirely separate arm is correspondingly less in the cavalry.

But one thing is certain, the officers must be enthusiastic, progressive specialists whatever the size of the force of

machine guns they command. Otherwise the great possibilities of the arm will be more or less wasted.

THE ORGANIZATION OF MACHINE GUNS WITH THE JAPANESE.

In 1902 Japan organized two batteries of machine guns, one of six Maxims machine guns and the other six Gatlings. These were attached to the first two divisions for trial. Each battery was composed of three officers and fifty-two men. Instructions for their use authorized the division commander to assign one to each infantry brigade. (Armee Et Marine, March, 1904.)

At the beginning of the war machine guns, also organized in detachments of six each, were attached to the Cavalry Brigade of Akijama and Prince Kanin. At the Battle of the Yalu the importance of machine guns was demonstrated to the Japanese and as rapidly as possible additional guns of Hotchkiss system were manufactured at Tokio. Maxim guns were bought in other countries also. Toward the close of the war it is said that Japan had 320 machine guns, Hotchkiss and Maxim.

The Japanese found six gun companies furnished too great a target for the hostile artillery, so guns were assigned singly or in pairs to infantry battalions for sweeping fire against trenches, repelling counter attacks, and for fire on retreating troops. It is now their intention to permanently attach to each battalion of infantry and each regiment of cavalry a detachment of four guns. The adopted gun resembles the Hotchkiss in system, has an automatic loading arrangement, and an oil tank placed above the loading belt. A regulator controls the rapidity of fire while the aiming device permits of free elevation and depression as well as horizontal turning through 360 degrees. (Mitellaigen undr Gegenstande des Artillerie und Geniewesens, 1909, M. I. D.)

MACHINE GUNS WITH THE RUSSIANS.

The Russians, according to Kuropatkin, had at the beginning of the war, a few machine gun companies attached to some of the East Siberian Rifle Divisions, and in the very first fight, at the Valu, one of these companies, attached to

the Third East Siberian Rifle Division, was most valuable. The Japanese were quick to profit by this experience, and after the September fighting at Liao Yang put in the field a great number of guns of a light portable type. These were of great service to them, particularly strengthening the defense of hastily prepared positions held by small numbers of men. The supply of these guns to the Russian army was carried out very slowly, and was, in fact, only finished by the time peace was concluded. The proportion also was too small, only eight per division. (Kuropatkin. "The Russian Army and the Japanese War." Pages 307, 8, 9.)

In 1906 Russia had over 120 machine gun companies partly with wheel and partly with pack transport. In addition there were thirty-five mounted machine gun detachments of six guns each, using the Rexar type. This gun only weighs seventeen and one half pounds but is fired from the shoulder and is said to be more of the nature of an automatic rifle than a machine gun. It is also said that the Rexar did not fulfill all requirements during the war.

Now Russia has a horse detachment of six guns for each cavalry division. The gun, which is of the Madsen model, weighing eighteen pounds, is carried in a case on the off side of the saddle. The detachment has one officer and thirty men. Men are armed with the carbine and saber. Each detachment is divided into three sections of two guns each.

ENGLAND.

England has made a considerable change in its organization of machine guns since 1906. Then each mounted infantry battalion and cavalry regiment had a platoon consisting of one machine gun and one pom-pom, a machine gun of thirty-seven mm. caliber. The pom pom was retained from the Boer War because its fire greatly frightens horses, and though its fire effect was small, the shell made an excellent range finder.

The cavalry machine gun platoon had one officer, twenty-two men, fifteen saddle horses, twenty draft horses, one six-horse pom-pom with six-horse ammunition wagon and one two-horse machine gun with four-horse ammunition wagon.

England now has a platoon of two Maxim guns assigned to each cavalry brigade and each battalion of mounted infantry. With mounted infantry there are six pack saddles and with the cavalry three, so as to be able to change to pack transport when necessary.

The height of the axis of the piece enables the piece to be fired in the flank over the wheel, which is fifty-five inches in diameter. A steel shield protects the gunner. It can be fired without unhitching, but the breathing of the horses make the carriage unsteady, and horses are unhitched except in an emergency. One horse is in shafts, the other abreast, is outside and carries the driver. One man is carried on each side of the limber chest on the march. With the gun are carried 3,400 cartridges in belts (fourteen boxes); the ammunition wagon holds 17,050 rounds (17,600 in M. I.). The officers are armed with saber and revolver; privates with the rifle.

Even the English are coming around to the view that the machine guns with the cavalry must be able to follow that arm across country. As Captain Applin, D. S. O., says: "There is no reason why machine guns should not be as mobile as cavalry, and the choice remains between a pack horse with a mounted detachment or a galloping carriage; and the former is in every way preferable, principally because it can carry the gun and ammunition across any country and can come into action in less than thirty seconds on an adjustable tripod which can be carried by hand into any position and presents a very small, inconspicuous target." (Machine Gun Tactics, 1910.)

Major Mansell, speaking of the latest Vickers model says that it weighs less than twenty-six pounds, is fired from a tripod weighing only thirty-four pounds, and is adjustable for firing by one man only, lying down. (Fournal of Royal United Service Institution, 1909.)

GERMANY.

The German machine gun, Maxim system, is mounted on a sort of a sled which forms the firing frame. For marches the sled is placed on a wheeled carriage, drawn by four horses driven like artillery. In exceptional cases the gun can be fired from the carriage. It takes from ten to fifteen seconds to remove the gun sled from the carriage. The guns can be used on any terrain passable for infantry. The sled can be carried or drawn by the men for short distances and over considerable obstacles. The ammunition, in belts holding 250 rounds each and packed in boxes, is similarly drawn on an ammunition sled. In action the guns present no larger target than skirmishers fighting under similar conditions. The gun on the sled furnishes a low target, little larger than a skirmisher lying down. (Balck, Lieut. Krueger's Translation.)

Disadvantages.—The sled carriage is heavy, its stability is not good on hard ground, it makes a larger target than the tripod carriage, and wheel transport cannot follow the troops everywhere. In the German operations in the Great Karras Mountains, machine guns had to be transported occasionally on packs in order to keep up with the troops.

The German machine gun detachment has four officers, 104 soldiers, nine saddle and thirty-two draft horses; 72,000 cartridges is the amount of ammunition carried. The gunner can be mounted beside the driver and two cannoneers can ride beside the gunner, the other cannoneers follow on foot. The mounted non-commissioned officers have a saber and and automatic pistol, other non-commissioned officers, drivers and cannoneers are armed with a sword bayonet. Cannoneer No. 1 also has a pick.

AUSTRO-HUNGARY.

The Schwarzlose machine gun was selected after experiment. Two of the Austrian cavalry regiments possess machine gun detachments. It is intended to have each cavalry division supplied with a machine gun detachment as well also nine unattached cavalry brigades so that all the Austrian avalry will have machine guns. The effective force of the

cavalry machine gun detachment consists of one captain, two lieutenants, forty-three men and sixty horses, of which six are officers' chargers, forty two saddle and twelve pack horses. Each machine gun detachment is divided into two sections of two machine guns each. The ammunition is also carried on pack horses, to the amount, altogether, of 14,000 rounds. The training of officers and men for the machine gun detachment is completed by a six months' course at a school of musketry. (British Cavalry Fournal, April 18, 1908.)

The Japanese, the Swiss and Austrians assign four guns to their cavalry regiments, but it must be remembered that one of our cavalry regiments is about the size of a cavalry brigade abroad. Consequently our proportion of six guns to the regiment is a smaller proportion than obtains in those countries.

SWITZERLAND.

The Swiss cavalry is entirely militia cavalry, the officers, non commissioned officers, and troopers receive their instruction in very short courses of limited duration. The squadrons, regiments and brigades assemble annually for short periods of exercise called repetition courses. The Swiss cavalry is formed into four brigades of two regiments of three squadrons each. Each brigade has one mounted cavalry machine gun company with eight guns. Each squadron numbers 125 rank and file. Switzerland uses the pack transport, the Maxim gun with tripod mount. The whole eight guns of a company can be brought into action in about a minute. Each gun is followed by two ammunition pack horses, carrying 4,000 rounds. The reserve ammunition for the machine gun company is carried in four light two horse ammunition wagons, carrying 65,000 rounds. Owing to the nature of the country it is recognized that the Swiss cavalry must often have recourse to fire action. The handling of the machine guns is very skilfull as the men have lots of practice with them. The annual allowance of ball ammunition for practice is also very liberal. (Lieutenant C. Delme-Radcliffe, British Cavalry Journal, January, 1908.)

TACTICAL USE OF MACHINE GUNS.

Direction of Machine Guns.—In general this can be considered under two general heads:

- Their employment under the direction of higher commanders.
- 2. Their employment when attached to certain organizations.

In the first case their use in troops or companies or in even larger groups will frequently occur.

In the second case the employment of more than two guns together would occur when they come into action at the beginning of a fight, for massed fire at middle or long ranges against favorable targets, in order to take advantage of fleeting opportunities, or to assist the deployment of their own troops. During the further development of the fight their use by echelons is more likely to occur.

In mounted actions of large commands, on the contrary, the machine gun troop would be better fought as a unit, since if divided into platoons and separated, the longer firing line might hamper the movements of mounted attack. Again the number of firing lines must be reduced to a minimum for the same reason.

Therefore, in purely mounted action of large commands the machine guns had better, generally, be concentrated and under one commander, following the principles for the use of horses in such actions.

Cavalry actions tend nowadays to the use of both dismounted and mounted action. The use of machine guns will, therefore, depend upon circumstances, partly concentrated to a flank to support the mounted aggressive action, and partly occupying most favorable positions to support the dismounted containing attack.

DUTIES OF COMMANDING OFFICER OF MACHINE GUNS DURING ACTION.

In order to intelligently assist with his guns it is most necessary for the commanding officer of machine guns to know the plan of the commanding officer of forces to which he is attached and the conditions existing. Therefore, the commanding officer of the machine guns should accompany the commanding officer of forces during the first stages of the action. On receipt of battle orders he first chooses the firing position; second, estimates ranges; third, allots targets and decides the kind of fire; fourth, orders the commencement of fire.

In the attack the commanding officer of machine guns should, if possible, make personal reconnaissance of the terrain and route for advance of the detachment. In this the difficulties of the route and protection against sudden attacks must be considered. In retreat the commanding officer of machine guns must remain with the command and send the senior subaltern to the rear to make reconnaissance for new positions.

Initiative.—The commanding officer of the machine guns should not expect orders for every phase of the fight. The cavalry action should be constantly watched, advantage taken of every opportunity to assist, and timely provision made for either a favorable or unfavorable outcome of the fight.

POSITION FOR MACHINE GUNS.

When Cavalry Meets Cavalry.—At time of first advance the machine gun detachment quickly advances to a position, first, to cover the deployment of our cavalry, and then to aid it in its attack; on this account the machine gun commander must frequently act on his own initiative, although the first position would be indicated by the cavalry commander.

Selection of Position.—The position for action would better be selected toward a flank, and in front of the charging cavalry. In this way the fire can be kept up until just before the shock. This may also prevent an enveloping movement of the enemy on this flank. A position protected against direct attack is to be desired, but the consideration of suitability should always outrank that of protection.

The most important consideration of a good position for machine guns with cavalry is not cover, but efficiency of fire.

The Background.—The background of the position of the guns cannot be neglected. The following are good positions:

In front of a dark object or close to thick, low hedge, or in the shadow of thick trees or brush. Avoid positions near which the enemy has fired trial shots or places on a level with it. The selected position should be entered as rapidly as possible. Scouts should cover the flanks but not too far out to lose touch with the guns.

USE OF MACHINE GUNS SINGLY.

If possible, machine guns should always be used in pairs because of their well known tendency to get out of order during the stress of battle. If a single gun should get out of order at a critical moment serious consequences might result. For instance, during the advance of the German against Waterburg on August 11, 1904, two machine guns were attached to the advance guard, the Eleventh Field Company, while the rest of the detachment remained with the main body. When it was discovered that the well at Hamakari was held by the enemy the advance guard deployed against it, posting one machine gun on each flank. This separation came near being fatal. After the advance guard had succeeded, with heavy losses, in occupying the first water-hole, the Hereros attacked in force, enveloping the left flank. The single machine gun posted there, due to swelling of the barrel, suddenly failed to act. It was only through the ability and good fortune of the gunner in fitting a new barrel within thirty seconds and again opening fire on the enemy, who had meanwhile reached closest range, that the company was saved from annihilation. The enemy was repulsed with heavy losses. (v. Beckman.)

AMMUNITION SUPPLY.

Ammunition must be carefully husbanded. Platoon commanders and the chief of the piece must be carefully trained in this duty. They must especially beware of long ranges and unpromising targets, since the supply of ammunition is used up very rapidly in action.

The ammunition should be as near the gun as the terrain will permit. If over 100 yards distant rapid fire cannot be maintained for long periods. In case pack animals cannot • be brought so close, ammunition only should be brought to the vicinity of the position.

As a rule in battle the resupply of cartridges must be brought forward for quite a distance from the enemy by the men. It would be well to have them supplied with special carrying receptacles, because when close in, they must rush forward at a run or even creep.

When the reserve ammunition is carried in wagons it will often be well, in purely cavalry actions, to leave the ammunition wagons behind in a secure place. The mobility of the machine guns will thus be increased, the occupation of the firing position hastened and possibly firing to the rear less hindered. Moreover, the quantity of ammunition carried with the guns will generally be sufficient for the briefly lasting fire surprises which alone are to be reckoned with in cavalry action mounted.

INTERVAL BETWEEN GUNS IN CAVALRY ACTIONS.

Large intervals between sections are not to be recommended since a very extended line of fire hampers the movements of mounted troops. Moreover, guns should be close enough to support each other. The action at Wan Ching, June 8, 1905, illustrate the advantage of correctly posting the guns to this end. General Samsonoff had two regiments of cavalry, one of which had a Madsen machine gun detachment. This cavalry was directed to protect the left flank against an advance of Japanese. In the dismounted action in which the cavalry become engaged, these four machine guns were so placed that two stood in the center of the skirmish line with an interval between each other of 100 yards, while a gun on each flank was 400 yards distant from the center gun. After the action had lasted some time the skirmishers having suffered considerable losses from the Japanese infantry and artillery fire, withdrew from the lines of the machine guns to a rallying position in the rear. The guns were left to continue their fire alone. They had been posted so favorably under cover of the ground that neither that Japanese infantry nor artillery were able to locate their position with sufficient accuracy to damage them to any extent. After the action had lasted nearly three hours at this range, the Japanese, having suffered very considerable losses from the Russian machine guns in every attempt to advance, desisted from the attack and withdrew. (Captain Applin.)

FIRE.

The effect of a machine gun platoon corresponds, on the average, to that of an infantry detachment of from forty-five to eighty men. Since the dispersion of its fire issmall, the destiny of its cone of shots is correspondingly large. With machine guns correct elevation will therefore give greater fire effect but conversely an incorrect elevation a smaller fire effect than the corresponding fire of infantry. It is important, therefore, to determine the range first with a range finder and then to observe the striking of shots through good field glasses and correct the aim accordingly. In country where observation is impossible the fire should generally be distributed in the direction of depth, similar to infantry fire with combined sights or zone fire by artillery.

The fire of machine guns is deadly against large and dense targets, such as cavalry in all formations and limbered artillery. Even at long ranges, if the range is well known, good effect in a short space of time can be produced.

Machine guns while exerting their fire power to the utmost should fire for only short periods at a time. Therefore, a fire surprise should be the rule, but this fire should be repeated at varying intervals of time whenever favorable targets present themselves. The more unexpected the fire, and the shorter time into which the heavy loss of the enemy is crowded, the moral effect will be immensely greater. This is especially applicable to cavalry actions in which events move swiftly.

EFFECT OF SURPRISE.

In the Japanese attack on Wang-Tchia-Wopang, on March 1st, they had already reached within two or three hundred meters of the Russian position and, considering the garrison, is shaken in morale, decided to assault. Suddenly

the Russians opened with two machine guns, concealed up to that time, with the result that the Japanese attack failed completely; the attacking troops turned and fled in downright panic. (v. Beckman, M. I. D., Trans.)

The great fire power of machine guns must be economized until the decisive moment of action:

While useless in the destruction of works, villages, forts or similar strong places, they can be employed against weak walls, or in making a breach in a hedge, or in destroying a wooden bridge, or in overthrowing standing trees. (*Heiji Zashi*, 1910, M. I. D.)

Generally the machine gun employs a continuous and unhurried fire against an advancing or retreating target; the gunner should follow the target with the gun in the direction in which the target is moving. When there is a good chance for observation against a target, it is well, in cavalry fights, to correct elevations and direction by means of impact, so as to quickly adjust the gun.

In general, it is not advisable to fire at groups smaller than a troop, since such fire may disclose prematurely the position and the results would not be commensurate to the expenditure of ammunition.

AIM.

This may be:

- 1. At one point.
- 2. Lateral sweeping fire.
- 3. Longitudinal sweeping fire.

The requirements for two and three are a well trained gunner, and that the range be not extreme. Lateral sweeping fire is used against a target of great breadth, such as is a line in close order. The best range for this fire is from four to five hundred yards. At long ranges the results are comparatively poor.

Longitudinal sweeping fire is best used against a target which is rapidly advancing or retreating, or against a deep column, such as a long advancing column of the enemy.

REPULSING A CAVALRY ATTACK.

Machine guns prepared for firing can repulse an attack in superior force by cavalry and the fire effect is greater when the attack is in mass. But against a cavalry attack the laying must be especially sure, the firing calm, and properly distributed along the entire line.

The great speed of cavalry requires that the whole line receive losses in order that no portion of it be permitted to reach the position of the guns.

USE OF MACHINE GUNS WITH ADVANCE GUARD CAVALRY.

When the enemy is encountered unexpectedly, during an advance, the mission of the advance guard often requires it to seize quickly and to hold favorable points to the front. In case the enemy is about as close, or even closer, to the position to be seized as we are, only mounted arms can insure our prior seizure of it. Machine guns in such case are especially valuable because they combine great fire power with mobility. Cavalry and machine guns thrown forward at a rapid gait can compel the enemy to deploy and thus delay his advance long enough to enable our infantry to come up. Moreover, under the protection of cavalry and machine guns there can be sent forward, much earlier than could with cavalry alone, a part of the artillery or even whole batteries. The long range fire of these will force the enemy to deploy still farther back.

WITH THE INDEPENDENT CAVALRY.

Here machine guns increase both the power of attack and defense under all conditions.

To gain any important information of the enemy's main forces, cavalry must beat the opposing cavalry and break through its screen.

In reconnaissance by cavalry the fire power of the machine guns will be able often to break down quickly the resistance of the adversary in occupied villages and defiles. By their aid, it will be often possible to open the way for observation by our cavalry and at the same time make observation by the enemy difficult.

Even the attaching of only a platoon, plentifully supplied with ammunition, to the troop or squadron supporting the reconnaissance or to a detachment entrusted with a special mission, will be often of great value.

Take the case of an independent cavalry division with one brigade in advance from which reconnoitering squadrons have been sent on several roads. The brigade will have sufficient machine guns, under our organization, twelve to eighteen, to enable one machine gun platoon to accompany each reconnoitering squadron and still leave a reserve of machine guns with the brigade.

Let us follow a possible action of one of these squadrons.

As soon as its patrols have developed the enemy in sufficient force to stop their advance, the squadron, in order to gain any further information, must fight for it. Assume that the enemy's cavalry has appeared, driving in our patrols. The squadron would push forward to their support and, being aggressive, would use mounted action, if possible. The squadron commander, accompanied by the machine gun platoon commander, has moved rapidly forward to where he can view the enemy's dispositions. The enemy is also advancing. There appears to be a good place for machine guns on the left front for fire on the enemy's advance. The squadron commander decides to attack at once, enveloping the enemy's flank, away from the machine gun position. He indicates his plan to the machine gun commander and the troop commanders, and order the first two troops to advance to the charge; the third troop to support the first two on the outer flank, the fourth troop following the reserve as directed by the squadron commander.

Screened somewhat by these movements and by such accidents of the ground as do not cause delay, the machine guns have moved rapidly to the left front and go into action against the advancing enemy, ceasing fire, as the opposing lines close in the shock.

From this time on the machine gun commander must use his own initiative and not wait for orders.

If his action has been well timed, and the enemy, has been effectively fired into before the charge gets home, the enemy's first line will probably be ridden down. In this case the theater of the quickly changing action will move away from the guns and towards the enemy's supporting troops.

This is a case in which even a single machine gun by quickly moving forward to support the victorious cavalry, more or less disorganized even by their success, can, by timely fire on the formed troops of the enemy, clinch a victory, and prevent a probable repulse by these fresh troops.

On the other hand, should fortune favor the enemy, a single machine gun ready to move rapidly to a new position in the rear, to cover the withdrawal of our over-ridden cavalry, while one gun is used from the original position to fire from the flank upon the formed bodies of the pursuers, would probably prove of most value in extricating the cavalry, and in enabling it to reform.

In the purely mounted actions, because of the rapid shifting scene of action, the machine gun commander should have one echelon packed and ready to move as soon as the intermixture of troops causes his firing to cease.

In case the enemy decided to use dismounted action, in the first place another kind of action would result, depending upon circumstances.

A containing dismounted firing line of one troop might be deployed, and one troop, intended as reserve, held mounted while two troops mounted, accompanied by and screening the machine guns, outflanks the enemy, and makes the main attack, supported by machine gun fire, on the enemy's flank or on his lead horses.

Or the machine guns might be used with the firing line, where their fire power would enable a small force to hold the enemy while his position is outflanked by the bulk of the force mounted.

AN INSTANCE OF THE USE OF MACHINE GUNS IN CAVALRY RECONNAISSANCE.

Captain Golochtchanov, who commanded a detachment of six machine guns attached to the Eleventh Orenburg Cossacks, describes a reconnaissance of the Japanese position made on August 4, 1905, at Sitasi, by the regiment forming the advance guard of Major General Grekow.

"At about 4 A. M. the Russian cavalry attacked the Japanese outposts consisting of three companies of infantry and two squadrons. While waiting for the situation to be cleared up, the machine guns were kept in reserve. Two and then four were sent against the enemy's flank; the Japanese retired from position to position. At 1 P. M. the fight stopped. The Russians had carried three villages and determined the line and direction of the enemy's trenches Their task was accomplished. On the Russian side there were only 100 rifles in the firing line, with four machine guns." (La France Militaire, April, 1905, quoted by Captain Applin, D. S. O.)

Machine guns will also find a wide field for their activity in purely cavalry fights under the most varied conditions. The considerable increase in the power of modern firearms has given an increased importance to fighting on foot for cavalry, although it will be hardly the rule as was the case in the Russo-Japanese War. Machine guns give to the cavalry a great addition to its fire power which will enable it to carry on a dismounted fire fight with small forces and keep the bulk ready for the charge or for dashing forward unexpectedly against the enemy's fiank while he is occupied with the fire in his front.

The use of the greatly superior Russian cavalry, however, in the Russo Japanese War, shows the *futility* of depending on *cavalry* which relies on *fire action alone*. The Russian cavalry again and again, when opposed by the inferior Japanese cavalry, dismounted to fight, and thus became immobile.

Life in the rear of the Japanese army in spite of the presence of some 30,000 hostile horsemen in the field of operations, was, according to the *London Times* correspondent, "a sinecure, a positive *dolce far niente*, undisturbed even by the distant flash of a saber." He says, "it is because the Russian cavalry, armed as it is with rifle, and shade of Seydlitz, bayonet, is trained to fight only on foot, thereby throwing away its most valuable weapon, mobility, that it has

proved no more effective in the field than a flock of sheep."

(Captain Applin.)

On the Japanse side the machine guns attached to General Akijama's cavalry brigade were advantageously employed in the reconnaissance actions which preceded the fights at Wa Fan Gou. In this battle itself on the east wing at Tschen-Tsia Tun, on June 15, 1904, the cavalry and machine guns were again used successfully just in the nick of time.

FOR THE PROTECTION OF ARTILLERY.

Another use of machine guns in a cavalry fight is to have a platoon, for instance, protect the artillery. This makes it possible for the cavalry to throw in its whole force. Moreover, this allows the artillery greater freedom in the choice of position. Consequently the effect of the artillery in its support of the cavalry fight would be greatly increased. In case of a favorable result the artillery thus protected, can change position forward, pursue the enemy with fire and prevent him for rallying. In case the attack be unsuccessful the machine guns, as well as the artillery together, could delay the enemy's pursuit either from the first position or from a position in rear, thus assisting the cavalry in breaking away from the enemy and rallying. In such case it may indeed happen that the machine guns must be sacrificed in whole or in part. They would, however, have paid for themselves.

The cavalry leader, under manifest necessity or to save a body of troops, when other means fail, must not hesitate to sacrifice the machine guns. Machine guns are nothing more than an incomparably good auxiliary material for the cavalry leader to use in carrying out his mission. It must not be forgotten, however, that the cavalry which places too much reliance in machine guns loses its value as cavalry.

MACHINE GUNS VS. ARTILLERY.

Machine guns must take every precaution to keep from being discovered and fired on by artillery, since at long range artillery defeats machine guns. The only occasion in which modern artillery with protective shields can be engaged successfully by machine guns is when a flank or oblique fire at short ranges from a concealed position, occupied unperceived, can be opened unexpectedly on the artillery.

CAVALRY WITH MACHINE GUNS ON THE BATTLEFIELD.

Because of the great extension of modern battlefields it often happens that only mounted troops can be massed at the decisive points quickly enough either to utilize fleeting, favorable opportunities for attack or to avert an unexpected threatened danger. For instance, to attack unexpectedly the wing of the flank of the enemy, the swift and sure arrival at the position and the unexpected and energetic opening of the action, will frequently be possible only for mounted troops combining great artillery and infantry fire effect with great mobility. Cavalry with machine guns and horse artillery will be the very arms for this purpose. Consider for a moment how valuable machine guns would have been to Sheridan's cavalry in 1864, when he seized Cold Harbor, and against Five Forks and in the rest of his movement around the Confederate flank ending at Appomattox.

WITH THE CAVALRY IN A DEFENSIVE BATTLE OF ALL ARMS.

While machine guns are very valuable on the firing line, it is believed to be well to keep a certain number of them as a mobile reserve with the cavalry. Such a force would be most valuable against enveloping movements, especially those made against the flank opposite from where the bulk of the reserves are placed. Such a force could also be pushed out to the front of a defensive position to make the enemy deploy and disclose his forces, as well as to delay his advance.

Machine guns used in connection with cavalry will be very valuable also pushed to a considerable distance against the attacker's line of communication.

FINAL PHASE OF THE BATTLE.

Pursuit.—In case of favorable outcome, there follows the pursuit of the broken enemy with fire and the crumbling up

of those who continue resistance. Here is the opportunity for the cavalry division or brigade which has kept its attached machine guns during the battle. They will have a chance to get into action on one of the numerous duties that fall to cavalry both during and after the battle.

Machine guns which advance with the cavalry and artillery against the flanks and the rear of the retreating enemy can conspicuously contribute to the clinching of the victory.

To Cover a Retreat.—Should the battle result unfavorably machine guns can, together with cavalry and artillery, delay the pursuit of the enemy and thus enable the infantry to disengage itself from the enemy and continue the retreat uninterrupted. When the march formation has been successfully taken up the machine guns will be attached to the rear guard to again delay the enemy at suitable points and thus increase more and more the distance between the enemy and the main body. In such case the machine guns could well serve as protection to the artillery. Their own fire action might be limited to exceptional cases because, if possible, the action would be at artillery range.

A particularly effective use of machine guns at the time of a retreat is to have them quickly occupy a covering position on a flank. Because of their mobility they can remain longer in this position than infantry or artillery, and still

get away.

"In the conduct of war one is obliged to instruct oneself through the experience of others. Our own experience costs too dear or indeed arrives too late. (*Lieutenant General* Charles de Woyde, Russian Army)

EXAMPLES OF USE OF MACHINE GUNS WITH THE CAVALRY IN THE BATTLE ON THE SHA-HO.

The Russian cavalry south of the Tai-tsy-Ho had resumed their former position at To-Ka Ho-Shi on the foremoon of October 12th, when the Second Japanese Cavalry Brigade (Prince Hanin) got in their rear unobserved at Dao-Dia-Shan. The Japanese leader unexpectedly fired at the Russian reserves with machine guns and carbine with

disastrous results for the Russians. (Battle on the Sha-Ho, translation by Carl von Donat, p. 62.)

Sir Ian Hamilton describes this action, more in detail, as follows:

"On the 11th, Prince Kanin, with his Second Cavalry Brigade and six Hotchkiss machine guns, arrived at Chao Tao. Rennenkampf's 1,500 Cossacks with their battery of horse artillery hung about between Pen-Chi-Ho and Chao Tao. At 3 A. M. on the 12th, Prince Kanin marched on Pen-Chi-Ho. He had a skirmish at the Sen Kin Pass, driving the Cossacks back northwards. The Russians in their attack on Pen-Chi-Ho had been trying to envelop the place, and their extreme left had worked around along the river Tai Tsu, due south of the defense lines, so that on the extreme Japanese right the defenders were thrown back like the lower part of a letter S along the tops of the mountains, whose slopes ran down into the river, whilst the Russians with their backs to the river and their faces to the north, were half way up the slope, still endeavoring to effect a lodgement on the crest line. The Cossacks driven from Sen Kin Pass still interposed on the Tsai-Tsu-Ho, between the advancing Japanese cavalry and the Russian infantry, who on the northern bank were busily engaged with the Japanese defenders at Pen-Chi-Ho. As Prince Kanin approached, however, the Cossacks shifted their position to the east, still covering their unconscious infantry so far as to prevent the Japanese cavalry from attempting to cross the river, but leaving some high ground on the southern bank within effective rifle range of the Russian camp on the side of the river, open to them. Prince Kanin is not the sort of a man who would miss good chances, and he unhesitatingly seized the opportunity. Stealthily maneuvering his six machine guns into position on a high and broken spur which ran down to the water's edge, he suddenly opened a terrific rain of bullets upon two Russian battalions who, at half past eleven, were comfortably eating their dinners. In less than a minute hundreds of these poor fellows were killed and the rest were flying eastward in wild disorder. The next moment the machine guns were switched onto the Russian firing

line, who, with their backs to the river and their attention concentrated on Pen-Chi-Ho, were fighting in trenches about half way up the slope of the mountain. These, before they could realize what had happed, found themselves being pelted with bullets from the rear. No troops could stand such treatment for long, and in less than no time the two brigades of Russians, which had formed the extreme left of Stakelberg's attack were in full retreat. According to the Japanese the machine guns accounted for 1,300 Russians." (A Staff Officer's Scrap Book.)

According to "The Battle on the Sha-Ho," Von Donat's translation, Rennenkampf's infantry and the Third Siberian Army Corps completely exhausted, broke off the actions and began to retreat without superior orders. The former along the Tai-Tsi-Ho, the latter in the direction of Kan-To-Linn Pass. The headquarters of the Third Siberian Army Corps spent the night 12–13 as far in rear as at Lia-Kia-Wo-Pön. The Japanese infantry were so tired that they did not observe this withdrawal in the evening at all. Prince Kanin remained at Dao-Dia-Schan, the battlefield, but his patrols hung on the next day to the retreating Russian right wing. Rennenkampf had thirteen battalions, sixteen sotnias of Cossacks and thirty guns.

According to Kuropatkin, Stalkenberg's "eastern force" of which Rennenkampf's command was a part, was almost three times that of the Japanese forces opposed to it. But he says that he ordered Stalkenberg's eastern force to withdraw towards the center force because it was thirteen miles to the front. (Russian Army and the Japanese War, p. 245-6.)

The action of Akijama's brigade in the battle of Wa-Fang-Hao halted the attack of the Second Brigade of the Thirty-fifth Russian Infantry Division, commanded by Major General Glasko. Akijama's action relieved from a most critical situation the Third Japanese Division, who were in danger of having their right enveloped by the enemy's advance. Soon after when the eastern flank of the Russians was compelled, on account of the general situation on the battlefield to retreat, the Japanese cavalry brigade pursued energetically and even forced the opposing rear

guard out of their strong position at Tai Tsy Atum. All this was dismounted action and the losses that the Japanese Cavalry suffered was strikingly insignificant. (Captain Count Wrangel, Austro-Hungarian Cavalry, as quoted by C. J. B. Hay, in *Journal United Service Institution of India*, *July*, 1908.)

The Militar Wochenblatt of May 11, 1907, referring to this same fight has the following: "It is extremely doubtful whether the Japanese cavalry brigade under Akijama, which by its timely intervention at the battle of Wa-Fang-Kao, saved the sorely pressed right wing of the Japanese infantry by dismounted action and brought the fight to a stand still (not, however, by its carbine fire, but by its machine guns) could not have done even better. Could it not have decided the battle, after a thorough preparation with machine guns, be delivering a mounted charge in conjunction with the remaining divisional cavalry, which had also dismounted in order to fight on foot, but by doing so had gotten into great difficulty. (Fournal United Service Institution of India, Fanuary, 1908.)

The exploit of Lt. Stepanenko of the One Hundred and fortieth Zaraisk Regiment. This regiment was holding a nameless village near Khakhountai and Chandiasa on the west from Mukden when it was attacked on the morning of February 23d. The Japanese were allowed to get to 500 yards when fire from rifles and two machine guns opened on them. The dense lines of the enemy fell back in disorder towards Chandiasa leaving heaps of dead and wounded on the field. Part of the repulsed Japanese, however, took refuse in a Chinese cemetery near the village and later took the Zaraisk regiment in flank with rifle fire.

Lieutenant Stepanenko asked and received permission to take sixty volunteers from his own detachment of scouts and drive out the Japanese. By sending ten men in front to fire on enemy and attract his attention, he managed to get the remainder of his force close to the cemetery where, by getting cover for part of his men, he was enabled to charge the rear of the Japs with the bayonet with a part of his force, while they were lying down expecting the fire of the rest of

his force. He had prearranged that when he gave the preparatory command "company!" to make the Japs expect a volley, the detachment would at once charge with cold steel.

The Japs were dumfounded at this unexpected charge and when the rest of the sixty also charged with cold steel, a panic took possession of them and their officers, even by beating them with the flat of their swords could not hold them.

The regiment and machine guns were waiting for the moment of Japanese retreat, with the result that fourteen officers' swords, 400 rifles and eighty-five unwounded prisoners were the trophies of this exploit which won the St. George Cross of the fourth class for the lieutenant. (From Captain Carey, R. A., United Service Institution of India, January, 1907.)

A similar method of charging the enemy's flank or rear while holding him down by fire in front, and supplementing the fire effect by the use of machine guns would be especially valuable for combined mounted and dismounted action of cavalry.

INSTANCE OF USE OF MACHINE GUNS AGAINST THE THREE ARMS.

A Russian, evidently an officer, has described the role played by his machine gun company at the Battle of Liao-Yang. During the night of August 29–30, the company occupied a position on the southern edge of the village of Grutsiatsi, with the railway line to its left, at 400 paces, and behind this the heights of the Liao-Yang position. In front of these heights was the village of Maietoun, with two hills south of the village. Both the heights and the village were occupied by a regiment of infantry. In front, to the south of the village of Groutsiatsi the Kaoliang has been cut down for 900 paces.

"On August 30th, about 10 A. M., a few cavalrymen appeared along the railway line and having been fired upon from the fill, took cover in the kaoliang east of the line, where their movements could be easily followed. At a spot where the kaoliang was less thick for a distance of from 1,250 and 1,300 paces from the machine guns, the cavalrymen were

plainly seen and behind them a lot of horses appeared, evidently a mountain battery trying to advance without being seen so as to attack the infantry regiment in the rear.

"The machine guns opened fire, sweeping progressively the ground from right to left and from rear to front. The battery endeavored to take shelter in another part of the kaoliang, but it was too late and everything that moved fell under a shower of bullets. 6,000 cartriges were spent, but the expenditure was well justified by the results. A minute and a half after opening fire there was no longer anything to fire at.

'About noon it was discovered that the Japanese were sending men one by one across the railway. We opened fire by gusts at various ranges with a sweeping action. Darkness having come, the Japanese sharpshooters began to approach to a very short distance and till dawn they pelted us with an incessant fusillade which, however, did not do much damage.

"When daylight came each machine gun fired a band of ammunition in order to clear up the kaoliang in front of us, whereupon for half an hour there was complete calm. Then a few sharpshooters began to snipe at us from behind the piles of kaoliang. Our men, annoyed by these sharpshooters, asked for permission to give them a bayonet charge. Fifteen men, taken from the orderlies and the horseholders, with a non-commissioned officer, went out.

"The Japanese, about twenty-five in number, also came out to meet our men. A hand to hand fight ensued which lasted but a few minutes and ended with the defeat of the Japenese. After this fight we were let alone for two hours which gave us much needed rest. Then a group of Japanese appeared at a little railway bridge, one of whom began to make signals by means of a yellow flag. Our sharpshooters endeavored in vain to dislodge them. The distance was 1,500 paces. Whereupon we fired a volley with the machine guns, one of the pieces having a range of 1,480 paces and the other 1,500. This stopped the signaling. At 5 o'clock lines of riflemen began to appear in the kaoliang, their object being to turn our right flank near the village of Baitsaalaogonavo,

where the kaoliang was still standing. This made us fire frequently at a road leading to the village of Datchao.

"It was on the 31st, at 8 P. M., that the Japanese decided to drive away the machine guns from the village of Gout-

siatsi by means of their artillery.

"A battery took position at the village of Datchaosiatsi and sent upon us a rain of shell and shrapnel. We had many losses and night only delivered us from the enemy's fire, to which we were unable to reply on account of the distance. At 9 P. M I received the order to evacuate the position.

"During the two days' fighting we spent 26,000 rounds and had thirty per cent of the men actually serving the pieces killed and wounded, but our instructions to prevent the Japanese from taking the rear of the Maietoun position had been effectively complied with.

"Up to a distance of 1,500 paces the company of machine guns had given better results than the line of riflemen.

"Thanks to its rapidity of fire it placed hors de combat a mountain battery in a few minutes.

"It absolutely prevented the Japanese riflemen from taking up a position behind the railway embankment.

"It cleared easily the edges of the kaoliang from Japanese sharpshooters. On the other hand the machine guns were helpless against field artillery, from whose fire they could find no shelter.

"This confirms very positively the impossibility for the machine guns to take the place of artillery." (An article published in the *Rousski Invalid*, translated from "*la France Militaire*" of November 15, 1904, M. I. D.)

The "Rasviedohik," according to Internationalen Revue Armeen und Flotten, October, 1906, M. I. D., reports this company as belonging to the First Siberian Corps, at the battle of Lia-Yang, and continues as follows: "The commander received the order of St. George, fourth class, and the men received ten crosses of St. George."

THE CHILIAN ARMY.

APPOINTMENT, CLASSIFICATION AND PROMOTION OF ITS PERSONNEL.

BY LIEUTENANT FRANCES A. RUGGLES, ELEVENTH CAVALRY,

LAWS AT PRESENT IN FORCE AND PROPOSED CHANGES.

CLAIMING that the present laws upon the subject are antiquated and faulty, the Chilian War Department has recently submitted to the approval of Congress two bills, each classifying the personnel of the army and regulating its appointment and promotion.

In order to understand the nature of the reforms suggested and what evils they are supposed to remedy, it is necessary to study first the existing regulations, second the objections to these, and third the new measures which are intended to obviate the objections.

EXISTING REGULATIONS.

In accordance with the promotion law of September 3, 1890, as slightly amended by the pay bill of September 7, 1906, and as applied by executive decrees, officers and enlisted men are classified, appointed and promoted as follows:

Officers:

All officers are appointed by the President of the Republic. The nominations of general officers and colonels only require the confirmation of the Senate. Officers are divided into two classes as follows:

I. Line and General Officers:

This class includes general officers and those of cavalry, field and coast artillery, infantry, engineers and special troops (wagon train and railway). The general staff and

the ordnance and inspector departments are composed of detailed line officers.

2. Military Employees:

a. Having assimilated military rank.

This group comprises officers of the supply, medical and judge-advocate departments.

b. Without military rank.

Includes chaplains, military storekeepers, veterinarians, chemists and skilled mechanics or artificers.

Line and General Officers:

The following are the grades of rank of line and general officers:

- 1. General of division.
- 2. General of brigade.
- 3. Colonel.
- 4. Lieutenant colonel.
- 5. Major.
- 6. Captain, first class.*
- 7. Captain, second class.*
- 8. First lieutenant.
- 9. Second lieutenant.

Generals of divisions and of brigades are called "general officers." Colonels, lieutenant colonels and majors are denominated collectively "chiefs" (jefes), and captains and lieutenants "officers."

Vacancies:

Vacancies in the various grades are produced by promotion, by death or other casuality and by the operation of the "age for grade," retirement law of September 9, 1907, which must be considered in connection with the present subject. This law provides that (with certain exceptions of officers who have held supreme command of troops in the

^{*}Class distinction of captains affects pay only.

face of the enemy), officers shall for each grade be retired upon attaining the following ages:

Generals of division, sixty-three years.

Generals of brigades, sixty-one years.

Colonels, fifty-eight years.

Lieutenant colonels, fifty-five years.

Majors, fifty years.

Captains, forty-five years.

First lieutenants, thirty-five years.

Second lieutenants, thirty years.

Officers retired under the provisions of the foregoing receive as pay as many fortieth parts of the active pay of their grade as they have years of service, including service at the military academy. Should they have the necessary qualifications for promotion, (as will be seen later, seniority is not necessarily one of them), their retired pay is computed on the basis of that of the next higher grade.

Officers retired for disability occasioned in war, campaign, or in acts directly incident to the performance of duty, have their retired pay commuted as in the case of those retired for age.

Officers retired as a result of being one year on disponibility, (a condition resembling suspension), or on account of disability not directly incident to the service receive as many fortieth parts of seventy-five per centum of the active pay of their grade as they have years of service. Those retired by direction of the President of the Republic for inefficiency have their pay commuted taking as a base fifty per centum, instead of seventy-five or 100 per centum, of the active pay of their grade.³

Vacancies in the grade of second lieutenant are filled by the appointment of graduates of the military academy only.

A cadet at the military academy, in order to be commis-

^{*}There have been very few cases of retirement for inefficiency. This method of getting rid of undesirable material has usually been resorted to only in the cases of first lieutenants who have twice failed to pass the examination for promotion, and of officers who by means of drink, of failure to meet their pecuniary obligations, or by moral character are unfitted for their positions.

sioned a second lieutenant, must be at least eighteen years of age, physically sound, have taken the general course of five years, and have successfully passed the final examination. or have taken the special course of one year and passed the final examinations. In order to fill the many vacancies in the grade of second lieutenant which remain after providing for the graduates of the regular course, the President has from time to time created special courses at the military academy, of one year's duration in which theoretical and practical instruction, strictly military, is given. The cadets of these courses are composed of officers of reserves, young men who have served the conscription period of one year with troops, as "aspirants for commissions of reserves", and civilians of less than twenty-one years of age, who have taken the sixth or last year's course in the secondary schools or who pass an entrance examination.

Promotions:

Officers are promoted to fill existing vacancies only. Vacancies in the various grades between first lieutenant and general of division, inclusive, are filled by the promotion of officers of the next lower grade who are eligible, in the following manner:

Between Firt Lieutenant and Lieutenant Colonel Inclusive :

By the promotion, part by seniority and part by "merit" *i. c.* selection, of officers of the same arm of the service as that in which the vacancy occurs as follows:

- a. To first lieutenant and captain, two-thirds by seniority and one-third by "merit."
- b. To major and lieutenant colonel, one-third by seniority and two-thirds by "merit."

The requirements for eligibility for promotion to vacancies in these grades are:

To First Lieutenant :

Service as a second lieutenant for at least two years, all of which must have been on duty with troops.

To Captain, Second Class:

Service as first lieutenant for at least three years, two of which must have been on duty with troops, and the attaining of a per centage of fifty in a practical and theoretical examination in military art to determine fitness for promotion.*

To Captain, First Class:

Four years' service as a captain, second class.

To Major:

Being a captain, first class, and having served at least one year as a captain, first or second class, with troops.

To Lieutenant Colonel:

Service as a major for at least four years.

Vacancies in the Grade of Colonel and General of Brigade:

By the promotion of the senior officer in relative rank of the next lower grade, whatever his arm of the service, provided he has served in that grade at least four years.

This method of filling vacancies in the grade of colonel undoubtedly causes inequalities in the number of these officers among the different arms, thus, if a vacancy occur among the colonels of cavalry and the senior lieutenant colonel in relative rank is an infantryman, he would be promoted, becoming an extra number, and the vacancy of colonel in the cavalry would remain unfilled until the senior lieutenant colonel of that arm became senior to all lieutenant colonels of the other arms and a new vacancy in the grade of colonel occurred. It is claimed, however, that this method of promoting lieutenant colonels adjusts itself and causes no inconvenience, as the duties of colonel can, in their default, be as efficiently performed by lieutenant colonels.

Vacancies in the Grade of General of Division:

By the promotion of the senior general of brigade, whatever his length of service in that grade.

^{*}Examination to determine fitness for promotion is required only for the grade of captain, second class. A first lieutenant may take this examination at any time he elects. It is not necessary to be one of the seniors in his grade.

MILITARY EMPLOYEES.

I. Supply Department:

The duties which, in our service, devolve upon the quartermaster, subsistence and pay department are in the Chilian army united and performed by the "Departmento Administrativo," or Supply Department, whose chief is usually a general of brigade or line officer of the rank of colonel. The subordinate officers are classified collectively as "employees of military administration," have assimilated military rank and receive a special rate of pay.*

2. Military Judge Advocates:

There are two grades as follows:

- a. Judge Advocate General of War,† with the assimilated rank, pay and allowances of colonel.
- b. Judge Advocates of Division, with the assimilated rank, pay and allowances of lieutenant colonel.

3. Medical Department:

Officers of the medical department have assimilated rank and receive a special rate of pay. The following are the grades:

- a. Chief Surgeon or Surgeon General of the Army, with rank of colonel.
- b. Major Surgeon, division chief medical officer, with rank of lieutenant colonel,
- c. First Surgeon, regimental surgeon, with the rank of major.
- d. Second Surgeon, regimental or separate battalion or company surgeon, with the rank of captain.

^{*}The different grades are from lieutenant colonel down to second lieutenant.

[†]The Judge Advocate General of War is a chief of section in the department of justice and recompense, in the ministry of war, whose chief is a general officer.

Military Employees Without Rank:

- 1. Veterinarians.
- 2. Chaplains.
- 3. Military storekeepers.
- 4. Chemists.
- 5. Skilled mechanics or artificers.

Promotion of Military Employees:

Although strictly construed, the promotion and retirement laws in force relate only to line and general officers, the government has, in the absence of special legislation, applied them as far as possible to those military employees having assimilated military rank. In other words, officers of the supply, medical and judge advocate departments are for each grade, according to their assimilated rank, retired upon attaining certain limiting ages. Vacancies are filled by the promotion of officers of the next lower grade only, conforming to the regulations governing the advancement of line officers, *i. c.*, part by seniority and part by selection, subject to the minimum length of service in each grade, see under "Promotion" pages four and five, this report.

Military employees without rank are promoted by seniority.

Conscripts, Enlisted Men and Non-commissioned Officers:

The following are the grades of rank of enlisted men:

First sergeant.

Vice-First sergeant.

Second sergeant. First corporal.

Second corporal.

Contracted or Line soldier, private.

Conscripted soldier, private.

Farriers, blacksmiths, mess sergeants, hospital stewards, drum-majors, musicians, enlisted artificers and veterinarians, non-commissioned officers of the supply department, etc., have assimilated rank, varying according to circumstances from that of second corporal to that of first sergeant. The duties which, in our service, devolve upon regimental and

battalion non-commissioned staff officers are performed by detailed sergeants. The highest non-commissioned grade is that of first sergeant.

Conscripts:

Serve one year as privates, except when performing their military service as "Aspirants for Commissions of Reserves" in which case they are, after a certain time, appointed supernumerary non-commissioned officers.

Contracted or Line Soldier:

Are enlisted for three years. In order to be a contracted soldier, a man must have already performed his military service of one year as a conscript.

Appointment and Promotion of Non-Commissioned Officers:

A military academy for the education of young men to serve as non commissioned officers in the army was organized in Chili in 1908. The course is of three years duration and the first class will be graduated in 1911.

Vacancies in the grades of first and second corporal will be filled by the appointment, by the Minister of War, of graduates of this institution. Vacancies in the higher noncommissioned grades will be filled by the promotion of these men.

At present, in default of graduates of the school, non-commissioned officers are appointed from enlisted or contracted soldiers. Vacancies between the grades of second corporal and first sergeant inclusive, are filled by the promotion from the next lower grade of men who have served in it at least six months. Appointments and promotions are made by the regimental upon the recommendation of the the company commander. No one is appointed a non-commissioned officer who cannot read and write.

Objection of the Chilian War Department to the Present System of Promotion:

These are based on twenty years experience and are as follows:

1. The present age for grade retirement law does not

insure a sufficient flow of promotion, especially in the grades of captain, major and lieutenant colonel.

- 2. There is little or no provision for the elimination of the inefficient, and, in consequence, unqualified officers can reach the higher grades by patience and health alone.*
- 3. "The frequent wrongful use of 'promotion by merit' causes injustice and consequent demorilization."
- 4. "The laws favor negligence, especially in higher grades. There being no system of elimination, nothing forces the higher officers to keep themselves mentally and physically fit for their positions."
- 5. "The present state of affairs is derogatory to discipline." "As the higher grades are often filled by incompetent officers their better instructed and more efficient juniors have an ill concealed contempt for them, which reflects it's influence upon entire commands."
- 6. "The law does not embrace all of the personnel of the army." "Nothing is said about the medical corps, employees of military administration (supply officers) and lower elements of the army."

GENERAL REMARKS.

In considering the foregoing regulations, there appear to be certain features of value, which, if adopted in our service, could not but prove beneficial. These are the following:

1. The Age for Grade Retirement Law:

Although the Chilian War Department is of the opinion that this is not sufficient to prevent stagnation, it certainly produces a constant and far greater flow of promotion than exists in our service. It's advantages are obvious It prevents the evils of stagnation, and allows officers to arrive in

^{*}This is true because there is but one examination for promotion required, that for captain, and even if several times overslaughed an officer will finally be promoted by seniority to lieutenant colonel, from whence to major general advancement is by strict seniority.

[†]After a fair trial of over twenty years and notwithstanding the strictest regulations tending toward justice, it is claimed that "promotion by merit' means "promotion by influence,"

[‡] This is practically a repetition of objection No. 2.

higher grades, after sufficient years of experience, but young enough to be physically fit to perform their duties. That the adoption of a similar measure in the American army would increase it's efficiency cannot be denied.

2 The provisions requiring a minimum fixed permanence in each grade before promotion and that vacancies in the various grades shall be filled by promotion from the next lower grade only:

These measures effectually prevent such wholesale overslaughing as that occasioned, in our service, by the promotion of captains to be brigadier-generals, which while it may have had fortunate results in individual cases, even those favored ones acknowledge, is wrong in principle and demorilizing to to the army at large.

3. The special courses at the military academy and the provision requiring that all second lieutenants be appointed from graduates of this institution:

This tends toward making the instruction of officers homogeneous throughout the army. It is thought that benefit would result to our service if, before receiving their commissions, second lieutenants appointed from the ranks and from civil life were given a special course of one year at West Point.

4. The "Supply Department":

It would be a step toward simplicity if our quartermaster, subsistence and pay departments were consolidated into a single one.

5. The Military Academy for Non-commissioned Officers:

It is justly expected that great benefit will be derived from this school, and that there will be obtained, through it's influence, a body of non commissioned officers but little inferior in practical military training to the officers. It is also expected that the control of the former over the enlisted soldiers and conscripts will thereby be increased.

The writer is of the opinion that, if a similar method of providing non-commissioned, modified if necessary to suit

special conditions, were adopted in the Amerian army that it would operate to increase efficiency.

Selection:

While it cannot be denied that, if impartial, promotion by selection or a combination of seniority and selection is the ideal for an army, still it is a significant fact that, after twenty years' experience, the Chilian War Department has come to the conclusion that justice is impossible. Regulations by means of which the inefficients would be eliminated and the brilliant officers rewarded, without injuring the efficient ones, would appear to solve this problem. It is with these aims in view that the new promotion laws for the Chilian army have been drafted.

NEW PROMOTION LAWS UNDER CONSIDERATION.

Of the two bills presented to Congress, with a view of correcting the evils caused by the present system of promotion, the first but modifies the existing state of affairs while the second makes radical changes by revoking the retirement law, prescribing elimination, and by fixing a limit of time for permanence in each grade. Both bills make provisions for the staff departments and for rewarding extraordinary merit. Their provisions are as follows:

First Bill:

"Proyecto de Lei que determina El Personal que compone El Ejercito-Sus Nonbramientos i Assensos." (Project of a law specifying the personnel of the army, its appointment and promotion.)

Article 1:

The individuals belonging to the army are designated "military men" and are the following:

- a. Officers and enlisted men.
- b. Military employees.

Article 2:

Belonging to the first group (a of Article 1) are:

I. Officers of the line.

- 2. Officers of the Sanitary Service.
- 3. Higher officers of the Supply Department.
- 4. Non commissioned officers and those having that assimilated rank.
 - 5. Soldiers, privates.

Article 3:

Officers are divided into four classes, viz:

- 1. General Officers:
- a. General of Division.
- b. General of Brigade.
- 2. Superior Officers:
- a. Colonels.
- b. Lieutenant colonels.
- c. Majors.
- 3. Captains.
- 4. Subaltern Officers.
- a. First lieutenants.
- b. Second lieutenants.

Article 4:

Officers of the sanitary service will include those surgeons between the rank of first lieutenant and general of brigade.

Higher officers of the supply department are those from major accountant to military intendent inclusive, with rank from major to colonel.

Article 5:

Non-commissioned officers are divided into two classes as follows:

- a. Non-commissioned officers of the first class.
- 1. First sergeant.
- 2. Ensign.
- 3. Vice-first sergeant.
- b. Non-commissioned officers of the second class.

- 1. Sergeant.
- 2. First and second corporal.

Article 6:

The class of "soldier" is composed of the following:

- a. Aspirants for commissions of reserves.
- b. Cadets.
- c. Students at the non-commissioned officers schools.
- d. Enlisted or contracted soldiers.
- e. Volunteer soldiers, those though not drafted, volunteer to perform their military service.
 - f. Conscripts.
 - g. Soldier workmen, (laborers).

Article 7:

The following belong to the class of "military employees:"

- a. Judge-advocates and chaplains.
- b. Employees of administration, (junior officers of the supply department).
 - c. Professors of swordsmanship and masters of arms.
 - d. Veterinarians.
 - e. Artificiers.
 - f. Military storekeepers.
 - g. Military pharmacists or chemists.

Those who, belonging to neither class of officers, officers of the sanitary service, higher officers of the supply department, nor to that of "soldier," are nevertheless in the service of the War Department with the "character of officer" are also "military employees."

Article 8:

All employees of the army, not included in the foregoing article (7) but whose employ is provided for in the appropriation bill, or in the special regulations fixing the strength of the army in case of mobilization, are civil em-

ployees and have the same character as other employees of the public service.

Their rights, attributes and duties are provided for in general laws or in the special regulations which establish this employment.

APPOINTMENTS.

A. Of Officers and Soldiers, Individuals in the Rank.

Article 9:

The nominations and promotion of officers shall be made by the President of the Republic in accordance with the provisions of this law. Those of individuals in the ranks will be made by the proper military authority pursuant to the requirements of special regulations.

Article 10:

Officers shall enter the army in the grade of second lieutenant. Individuals of the ranks enter in the grade of soldier (private).

The following shall be appointed "ensigns" of the army and enter the "military course" (fifth and last year) of the Military School for a period of one year:

- 1. Those cadets who have taken the "general course" (first four years) at the Military School and have successfully passed the required examinations.
- 2. "Aspirants for Commissions" who have satisfactorily served four months in the ranks and have successfully passed an examination on the subjects given in the sixth year's course in the arts or mathematics.

Those ensigns, at least eighteen years of age, who have taken the "military course" at the Military School and have successfully passed their final examinations, shall be appointed second lieutenants.

B. Of Officers of the Sanitary Service.

Article 11:

The officers of the sanitary service shall be the following:

a. General of the Brigade, doctor, who shall be the director of the service.

- b. Colonel, doctor.
- c. Lieutenant colonel, doctor.
- d. Major, doctor.
- e. Captain, doctor.
- f. Lieutenant, doctor.*

The above named officers shall have the rank, pay and allowances, retired pay and pensions corresponding to those of "officers" of the same grade in the in the army. They shall be subject to the laws and regulations in force in the military service.

Officers of the sanitary service shall be promoted by strict seniority, subject to the requirements that they show themselves worthy of performing the duties of the next higher grade, that they have good efficiency reports, and prove their capabilities annually by theses or by solving problems connected with their service.

Article 12:

In order to be appointed a lieutenant doctor it is necessary to have the degree of batchelor of medicine, to have performed one's military service for a period of least six months (under the compulsory military service law) and in addition to fulfill the other requirements laid down in the special regulations upon the subject.

In order to be appointed captain doctor it is necessary, in addition to the foregoing requirements for lieutenant doctor, to have the degree of medical surgeon.+

C. Of Superior Officers of the Supply Department.

Article 13:

Superior officers of the Supply Department shall be those having the following grades:

- a. Military intendant with the rank of colonel.
- *Whether first or second lieutenant is not clear, presumably first lieutenant.

- b. Intendant of division with the rank of lieutenant colonel.
 - c. Major-Accountant with the rank of major.

These officers shall have the right to the retired pay and to the pensions corresponding to their grades in the army, and shall be subject to the laws and regulations in force in the military service.*

Article 14:

The requirements for promotion from the grade of major-accountant to that of intendant of division and thence to military intendant are:

Six years' service in the immediate lower grade, good efficiency reports, and to have given proof of aptitude and ability by means of annual theses or the solving of problems connected with the supply service.

D. Of Officers of Reserves.

Article 15:

The requirements for appointment as an officer of reserves are the following:

- a. To have performed the compulsory military service as an "aspirant for a commission as an officer of reserves" for a period of one year and to have been appointed during this time a corporal at the end of the first six months and a sergeant at the end of the year.
- b. To have performed a supplementary period of services of four weeks as vice-first sergeant of reserves.
- c. To have successfully passed before a board of officers, appointed by the division commander, an examination to determine fitness for the grade of officer.

E. Of Military Employees.

Article 16:

Military employees shall have the "character" of officers with the obligation of wearing the uniform on duty. They

^{*}It will be remarked that the bill does not give these officers the pay and allowances of the corresponding grades in the line. This is undoubtedly an oversight.

shall have the right to the retired pay and the pensions equivalent to their grades. Their pay shall be such as the law especially assigns to them. They shall be subject to the laws and regulations in force in the army.

Article 17:

The appointment to a post (i, e, necessarily the lowest grade) of military employee shall be always as a result of a competitive examination.

The Minister of War will fix the time and the form of these examinations.

Article 18:

The corps of employees of administration, (junior supply officers) shall have the following grades:

- a. First accountant with the "character" of captain.
- b. Second accountant with the "character" of first lieutenant.
- $\epsilon.$ Third accountant with the "character" of second lieutenant.

In these grades are included all the employees of military administration necessary for the proper service of pay, subsistence, clothing and quarters for the army, in time of peace or war.

Article 19:

The requirements for appointment as third accountant are:

- a. Two years service with troops as a first class or assimilated first class non commissioned officer and to have passed through as an "aspirant for accountant" a six months course of instruction in all the branches of the supply department.
- b. Having successfully passed before a board of officers, appointed by the Minister of War, an examination to determine fitness for appointment.

Article 20:

1. First lieutenants and captains of the army, retired from active service, who take a special course of six months

instruction in all the branches of the supply department may enter the corps of employees of administration (supply) as first and major accountants respectively. The applications of these officers for such appointment must be made within sixty days after the date of their retirement.*

- 2. In addition to those fulfilling the requirements laid down in article nineteen, male citizens who have passed an examination in the subjects taught in the fourth year of the arts course or who are in possession of the title of accountant of a commercial institute or employed as such by the government and, who perform or have performed their military service for at least six months in the ranks and at least six months as an "aspirant for accountant," taking a course of instruction in all the branches of the supply department, may also be appointed third accountants.
- 3. One-half of the vacancies which may occur in the grade of third accountant shall be given to those candidates fulfilling the conditions laid down in Article 19, and the remaining half shall be filled as provided for in paragraph 2 of this article.
- 4. In order that those desiring to compete for appontment to these vacancies, the Chief of the Department of Administration (supply) of the Ministry of War will, from time to time, give public notice of the number of existing ones.
- 5. When a sufficient number of candidates do not present themselves for examination, the Ministry of War is authorized to fill the vacancies as provided for in Article 19.

Article 21:

The corps of employees of veterinary surgery shall be made up of the following grades:

- 1. Major veterinarian with "character" of captain.
- 2. First veterinarian with "character" of first lieutenant.

^{*}This arrangement, in addition to bringing into this department officers incapacitated for active service for one cause or another, seems unfair to those accountants, who for no fault of their own, will thereby be overslaughed.

3. Second veterinarian with "character" of second lieutenant.

The requirements for appointment as second veterinarian are:

- a. To take the course of instruction at the (army) School of Veterinary Surgery and successfully pass the final examination.
- b. To have performed the obligatory military service for a period of at least six months.

Aritele 22:

The corps of artificers shall comprise the following grades:

- 1. Major artificers with "character" of first lieutenant.
- 2. First artificer with "character" of second lieutenant.
- 3. Second artificer with "character" of first sergeant.

The requirements for appointment as second artificer are:

- a. To have taken the course at the Artificer's School and successfully passed the final examination.
- b. To have performed the obligatory military service for a period of at least six months.

Article 23:

The corps of military storekeepers are for the purpose of service in the ordnance depots existing in time of peace or which may be formed in time of war. It will comprise the following grades:

- 1. Major storekeeper with "character" of captain.
- 2. First storekeeper with "character" of first lieutenant.
- Second storekeeper with "character" of second lieutenant.

These positions shall be filled exclusively as a result of competitive examinations in which the following may take part:

a. Officers of the army retired from active service, exceptionally first sergeants.

- b. Military employees of the various classes.
- c. Military storekeepers at present in service.*

It is worthy of observation that, although the law states in paragraph 7, that judge advocates, chaplains, professors and master of arms and military pharmacists shall be military employees, still absolutely nothing is prescribed about the organization and grades of these services nor concerning the appointment of their personnel.

PROMOTIONS.

A. Officers and Individuals of the Ranks.

Article 24:

Vacancies in the grade of second corporal in companies, squadrons (troops) and batteries shall be filled by the appointment of graduates from the school for non-commissioned officers, or, only in default of the former, by the promotion of privates, enlisted, who have served at least six months in that capacity, have observed good conduct, can read and write correctly, and have successfully passed an examination to be prescribed by regulations.

In order to be promoted from the grade of second corporal to grades up to and including that of first sergeant, it is necessary to have served at least six months in the next lower grade, to be able to read and write; have observed good conduct and have passed an examination to determine fitness for each grade. Notwithstanding the foregoing, graduates of the non commissioned officers' school may, under exceptional circumstances, be appointed first corporal directly upon graduation.

In addition to the above requirements, no one shall be appointed a first sergeant who has not completed twenty two years of age.

Article 25:

The requirements for promotion from the grade of sec-

^{*}Although not clearly laid down, it is presumed that the above named individuals are the only ones who may compete for these appointments.

[†]This requirement seems superfluous as the law prescribes that no one can be a second corporal who cannot read and write.

ond lieutenant to those up to and including that of lieutenant colonel are:

a. To have served a minimum number of years in each grade as follows:

Second lieutenant, three years.

First lieutenant, three years.

Captain, five years.

Major, four years.

b. To have exercised the active command, directed the instruction and presented the review of their appropriate commands as follows:

Second lieutenant, in the command of a platoon or section or on duty as regimental or battalion adjutant and for the entire time of service in that grade.

First lieutenant, on same duty as second lieutenant and for three years.

Captain.....to have commanded a company, squadron (troop) or battery for two years. If this service is performed in the first division, the prescribed time is reduced by half.

Major.....The command of a battalion or group (artillery battalion) or to have served as "chief of detail" (second chief) of a cavalry regiment......for two years.

Lieutenant colonelthe command of a regiment for two years.**

Lieutenant colonels and majors of engineers may for the purpose laid down in this article command regiments and battalions of infantry.

Service as student officers in the schools of application shall for subaltern officers be counted as "service with troops."

- c. That they have observed good social and domestic conduct and especially that they have no unpayable debts.
 - d. That their service shall have been efficient.
- c. That they have shown good judgment in reporting upon their subordinates.

^{*}This is evidently required for promotion to the grade of colonel, but should not come under this article, which refers to promotion up to and including the grade of lieutenant colonel only.

f. That they are fit for advancement to the higher grade. This fitness will be evidenced by the results obtained in the reviews and inspections of the officer's command, in maneuvers and tactical rides, and by the solution of problems, themes, the giving of lectures, by the war game, and other winter work or commissions which may be assigned the officer.

All officers shall be given an opportunity to demonstrate their fitness for promotion.

g. First lieutenants and captains shall, in addition to the foregoing be required to pass an examination to determine their fitness for promotion to the higher grade.

The provisions of paragraphs "a" and "b," and the time limit laid down in paragraph "g" of this article are suspended in time of war.

Article 26:

The promotion of colonels and generals is subject to the requirements of having had while in that grade the command of an appropriate unit or the direction of maneuvers or tactical rides.

Article 27:

Whenever a vacancy occurs (in any grade) in any of the arms of the service it shall, except as hereinafter to be provided for in Article 32, necessarilly be filled by the promotion of the senior officer of that arm in the next lower grade. His relative rank or seniority in the new grade will not however be counted untill all officers of the other arms, who before his promotion were his seniors, shall have been promoted.*

No officer shall be promoted who at the time is suspended or on "disponibility."

Article 28:

The Minister of War will inform those officers who demonstrate unfitness that they should request their retirement from active service. If three months after the receipt

The justice of this is apparent. It appears a provision worthy of emulation.

of this notice, they have not taken such action they shall be "called to retirement."*

Article 29:

Those captains fulfilling the necessary requirements for advancement, who, on account of a lack of vacancies, have not been promoted, shall receive the pay assigned by law to captains, first class.

Article 30:

In order that the government may always have at hand information concerning the efficiency, abilities, conduct and military and social personality of all officers, efficiency reports on the personnel are established. These will serve as a base for promotions and details. Whosoever reports upon an officer will give his opinion upon the manner in which the one reported upon fulfills the requirements of paragraphs "c," "d," "e" and "f," of Article 25.

Efficiency reports shall be made annually and in writing by immediate commanding officers. Superior officers shall not strike out or alter any remarks of subordinate commanders but shall confine themselves to stating, in writing, with reasons whether or not they concur in the opinions expressed.

For officers serving with troops these reports will be made by company and battalion commanders and will be reviewed by regimental, brigade and division commanders, each of whom will concisely state his opinion. For officers not serving with troops they will be made by chiefs of departments (not a territorial command) sections, schools, commissions, etc., and shall follow the principle of review by the respective superiors.

No military authority other than those named shall intervene in the making or review of these reports.

All officers between the grades of second lieutenant and lieutenant colonel, inclusive, not accounted for in the foregoing paragraphs, shall be reported upon by the Chief

^{*}An officer "called to retirement" has his retired pay reckoned with fifty per cent, of the active pay of the grade as a base. Those retiring voluntarily with seventy-five per cent, as a base.

of the Personnel Department of the Ministry of War by means of data which he should obtain.

Article 31:

Based on these reports, a list shall be prepared by the Personnel Department of the Ministry of War by means of which officers shall be selected for promotion and details. These lists shall contain the names of the following:

- a. Officers who should be promoted with advantage i. e. ahead of their time see Article 32.
- b. Those qualified for detail to the general staff corps or as professors in the academy of war.
 - c. Those suitable for detail as adjutants of brigades.
- d. Those qualified for detail as instructors in the service schools.
- e. Those suitable for service in the "direction of material of war" i. e., ordnance department.
 - f. Those qualified for special duty of various kind.
- g. Officers who are not fitted for promotion to the next higher grade.
- h. Those who do not fulfil the requirements of their present positions.

Details shall be made by the Personnel Department of the Ministry of War, in accordance with the foregoing lists.

Military authority shall request and propose the names of officers for special duty, according to regulations.

Article 32:

The following officers shall be credited with having obtained the "advantage of promotion" hereinafter set forth as follows:

a. Majors and captains, who, as a result of the selection made persuant to regulations from among all officers of like grade and of having served a probationary period of one or two years, are for the first time in the new grade detailed as members of the general staff corps shall be entitled to an

"advantage for promotion" of two years counted from the date of last commission.

- b. Captains detailed as higher adjutants i. e. as adjutants of brigade shall in the same manner be entitled to an "advantage for promotion" of one year.
- c. Officers between the grades of first lieutenant and major inclusive, serving with troops or in other capacities, who excel in efficiency and in the performance of their duty, clearly demonstrating their fitness for the next higher grade, and whose names are contained in the annual list for "promotion with advantage" made by the Personnel Department shall, according to circumstances, be credited with an "advantage" of one or two years.

"Advantages" obtained as provided for in paragraph "e" of this article will be announced annually by degrees. In the cases referred to in paragraphs "a" and "b" the "advantage" accrues by the appointment alone.

Article 33:

The following are the commands and duties appropriate to the grades of general officer, colonel and lieutenant-colonel:

a. General of Division or of Brigade:

Command of a division, chief of the general staff or director of material of war (Chief of Ordnance)

b. Colonel:

Inspectors of Arms (i. c. chiefs of infantry, cavalry, artillery and engineers), commanders of brigades, chiefs of departments in the ministry of war, inspector of the remount service, chiefs of departments in the War Department general staff, director of the Academy of War, or chiefs of sections in the direction of material of war, i. c. Ordnance Department.

The duties of chiefs of department in the ministry of

[®] By "advantage for promotion" is meant antedating the commission, thus, in accordance with the above, if an officer were promoted captain in 1408 and later detailed as a member of the general staff corps he would be promoted major by seniority as if his commission dated from 1406 instead of 1408. If, as a major, he were again detailed he would once more be entitled to an "advantage" of two years.

war and of inspectors of arms may be performed by generals of brigades. Lieutenant colonels may be detailed as chiefs of department in the War Department general staff or of section in the direction of material of war.

c. Lieutenant Colonel, and Exceptionally Major:

Regimental commanders, chiefs of sections in the ministry of war or in the War Department general staff, directors of service schools, arsenals or military factories.

Article 34:

Those majors who, after eight years service as such, though qualified in accordance with the provisions of this law have, on account of a lack of vacancies, not been promoted, shall be advanced to the grade of lieutenant colonel.

The President of the Republic will annually fix the number of extra lieutenant colonels which shall be maintained and, in accordance with the recommendation of a board of general officers appointed for the purpose, will order the retirement of as many as are in addition to this number. The retirement board will be composed of six members, presided over by the Minister of War. In default of generals, senior colonels may be detailed as members.

Those lieutenant colonels retired pursuant to the above shall be considered as if retired for age, *i. c* they will receive as retired pay as many fortieths of 100 per cent of the active pay of their grade as they have years of service. This is liberal elimination.

Article 35:

The names of all officers between the grades of second lieutenant and colonel inclusive shall be arranged lineally on lists of cavalry, artillery, infantry and engineers. These lists shall be so arranged that, as far as practicable, promotion may be even throughout the service.

Officers of wagon train troops shall be detailed from all arms, especially the mounted ones. The general staff corps shall be composed of officers detailed from all arms of the service and shall preserve the lineal rank in the arm to which they belong.

Article 36:

All officers who arrive to be the seniors on the lineal list in their grade, but who have not fulfilled the requirements for promotion, except those provisions of paragraph "a" of Article 25 (minimum length of service in grade) shall be called to retirement.

B. Of Officers of the Sanitary Service.

Article 37:

The requirements for promotion are:

To the grade of major doctor:

Service with troops or in a military establishment as a captain doctor for four years and to have demonstrated the necessary abilities.

To the grade of lieutenant colonel doctor;

Service as a major doctor with troops or in a military establishment for five years and to have demonstrated the necessary abilities.

To the grade of colonel doctor:

To have served as a lieutenant colonel doctor for five years, two of which have been with the sanitary service of a division.

To General of Brigade Doctor Director of the Sanitary Service, being a colonel doctor.*

C. Of Offi ers of Reserve and of the Sanitary Service of Reserve.

Article 38:

Officers of reserves may be promoted up to and including the grade of captain. They take precedence after all

^{*}By Article 11 the promotion of these officers is by seniority. It is presumed, although the law leaves it indefinite, that they are promoted to fill vacancies only, and not as might be inferred at the expiration of the time limit, set forth for permanence in each grade. This is minimum and not a fixed permanence, presumably, and the law should read "at least so many years, etc."

It is also worthy of note that for promotion of all other officers and military employees, the law requires that "they shall have observed good conduct, social and domestic, and have no unpayable debts." Article 37 is silent upon this point and it consequently appears that doctors are required neither to behave themselves nor keep out of debt. This, of course, is an omission.

officers of the same grade and date of commission on the active list.

Before promotion to the next higher grade they shall perform a regulation period of service with troops of from four to eight weeks, which shall be in addition to the ordinary period.

Article 39:

Promotions and details of officers of reserves shall be in accordance with the efficiency reports made upon them by the commander of that body of troops in which the officer served as an "Aspirant for Commission as an Officer of Reserve" and by the "Commandant of Arms" of that place in which he resides. The first document shall relate his military efficiency and the second the conditions of his ordinary life.*

Article 40:

The names of all officers of reserve shall be borne on lineal lists according to their rank and arm of the service. Those inscribed in each garrison shall form a corps of officers under the direction of the military chief of that garrison or, in his default of the "Commandant at Arms."+

Article 41:

Those officers of reserve who attain the age of thirty years shall, unless they declare before the military chief of the garrison or the "Commandant of Arms" that they desire to remain in the reserve (first) and promise to perform the required periods of service, pass to the national guard (second reserve).

Article 42:

Those officers of the army who are retired from active service, by reason of age or at their own request, but who on account of their youth are still liable for military service shall enter the reserve or the national guard (second reserve)

^{*}Officers of reserve perform their periodical terms of service with the same body of troops as that in which they had previously been "aspirants."

⁺ By garrison is meant, city, town or territorial district.

in the grade held by them in the army, in the same manner as other officers of reserve.*

Article 43:

Those citizens who have obtained the degree of doctor of medicine or medical surgeon, have performed their military service in the ranks and who promise to perform the required periods with the reserve shall be appointed lieutenant and captain doctors of reserve respectively.

D. Of Military Employees.

Article 44:

Military employees shall be promoted by strict seniority subject to the requirements that they demonstrate their fitness for advancement by efficiency in the performance of duty, by the reports made upon them by their superiors and by the solution of annual tasks and problems based on their special service in time of war. Chaplains and judge-advocates are excepted from the provisions of this article.

Article 45:

The requirements for promotion to grades between that of third and major accountant, the latter inclusive, are:

- a. To have served four years in each grade.
- b. To have observed good conduct, social and domestic, and to have no unpayable debts.
- ϵ . To have successfully passed an examination to determine fitness for promotion.

Article 46:

The requirements for promotion up to and including the grade of major veterinarian are:

- a. To have served three years in the next lower grade.
- b. To have observed good conduct, social and domestic, and to have no unpayable debts.
- c. To have successfully passed an examination to determine fitness for advancement.

^{*}From the above it would appear that officers of the army "called to retirement" would not obtain commissions in the reserve.

The time which veterinarians may have spent as students at the school for veterinatians shall be counted as compulsory military service.

Article 47:

The requirements for promotion to the grades up to and including that of major artificer are:

- a. To have served three years in the next lower grade.
- b. To have observed good social and domestic conduct and to have no unpayable debts.
- c. To have successfully passed an examination to determine fitness for advancement.

Service as students in the school for artificers shall be counted as compulsory "military service."

GENERAL DISPOSITIONS.

Article 48:

"Rank" (rango) confer the same military and disciplinary attributes and command over their subordinates as that held by officers of the line of the same grade.*

The "character" confers the same quality, social position, and individual manifestations of respect as are held by officers of the line of the same grade.

Article 49:

The efficiency reports, see Article 30, shall be kept in the Ministry of War as follows:

- a. Those of officers of the line of the active army and reserve in the Personnel Department.
- b. Those of officers of the sanitary service in the Sanitary Section.
- c. Those of officers of the supply department in the Administration (supply) Department.
- d. Those of military storekeepers in the General Department of War.
- e. Those of veterinarians in the office of the "Chief of the Bureau of Instruction."

^{*} Doctors and superior officers of the supply department hold, according to this bill, the rank or "rango" of their grade.

f. Those of chaplains and judge-advocates in the Department of Justice and Recompense.

Article 50:

The President of the Republic will fix the number of posts in the government service of railways, telegraphs, post office, police and customs which shall be filled exclusively by the appointment of non-commissioned officers of the army who have served ten years.*

Article 51:

Those officers in the active service of foreign armies, contracted for service in the Chilian Army, shall have the title of "honorary officers" and the rank of other officers. They shall receive the privileges and emoluments granted them in their contracts, but shall in no case occupy any of the positions enumerated in paragraph 33. They shall serve as professors in the Academy of War, counsellors, etc.⁺

Article 52:

Officers of the line shall take rank in their grade from the date of the signing of their commissions by the President of the Republic.

Officers of the sanitary service, superior officers of the supply department, military employees and individuals of the ranks shall take rank in their grades from the date of appointment.

If commissions and appointments bear the same date, rank shall be governed by the previous commissions or appointments, and should these be equal by age.

Second lieutenants appointed on the same day shall take rank among themselves in the order in which their names appear in the decree nominating them, which shall be in accordance with the results obtained from their examination.

Article 53:

Officers temporarily retired or passed to the reserve who

^{*} This is a provision worthy of emulation.

[†]This refers to the three German general staff offices acting as professor in the Academy of War and as counsellors in the general staff.

return to active service reënter with the rank and senority held at the date of retirement. They shall not be credited with the time spent in retirement.

Article 54:

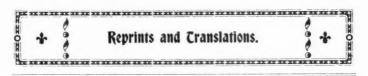
The examinations required by this law shall be taken in Santiago before a board of officers appointed by the Ministers of War.

Article 55:

All laws relating to the subjects treated in this bill, including those portions which do not conflict with these provisions, are hereby repealed.*

To be Continued.

^{*}The above article leaves judge-advocates, chaplains, professors of swordsmanship and masters of arms, and military pharmacists in a precarious position since the bill prescribes nothing concerning their appointment grades nor organization and repeals the existing regulations.



PEACE TRAINING FOR COMMAND.*

BY COLONEL J E. GOUGH, V. C., C. M. G., A. D. C., GENERAL STAFF.

THE subject of command in the field is one which must always be attractive to soldiers. We, probably, all study the question according to our opportunities and to the best of our ability. Our study is, however, often restricted to general principles, and no attempt is made to apply these general principles by actually working out the methods which we should adopt for the solution of a definite problem. We seldom carry our studies to their logical conclusion by actually writing the orders and then criticizing them closely.

It will not be possible to discuss the subject fully in the scope of this article; but an effort will be made to show how our officers might possibly be encouraged to study war, with a view to applying to present conditions the lessons and general principles which can be learnt from past campaigns.

At the present moment there seems to be a tendency to demand a ruling or "doctrine" as to how war should be conducted. Somewhat naturally there is considerable difference of opinion as to what is actually meant by the term "doctrine." Some officers understand a "doctrine" of war to mean a cut-and-dried method of making war which will be applicable to all cases. They advocate that we should adopt a so-called German method, or a so-called French method; that we should either envelop the enemy by advancing on a

^{*} From The Army Review (British), October, 1911.

broad front with next to no reserve—or that we should employ a strategical advance guard and maneuver our main force in rear of it. The argument, apparently, is that one of these methods must be better than the other, and should, therefore, be adopted.

We appear to be in danger of crediting the Germans and the French with cut-and-dried methods of making war which would cause them considerable surprise, as it is hardly conceivable that any soldier would advocate the same methods for, say, sixteen army corps operating on the Franco-German frontier, as he would adopt for, say 70,000 men operating by themselves in Norfolk.

There must be something very wrong with our teaching of war if officers really are anxious to see our General Staff produce a doctrine definitely advocating either the so-called German or so-called French method. That some officers do desire this, the writer can state as a fact from personal experience, and it shows that we are suffering from ten years of peace. Such theories and demands for cut-and-dried methods always seem to arise after a long period of peace. They are the outcome of academic study, not the fruit of practicle experience of war. Probably the above frame of mind arise from our General Staff not having had time to make its teaching felt throughout the army.

Most officers, however, when they urge the necessity for a "doctrine," are anxious to see our army trained to a proper understanding of war, with a knowledge of the advantages and disadvantages of the different methods, and, above all, to know how and when to apply this knowledge.

At present, when a young officer joins his battalion he picks up his ideas on war, in all probability, from his company commander and his colonel, and in a lesser degree from his brigade and divisional commanders, all of whom, perhaps, have different views on the subject.

Britishers have always been individualists and our Empire has been built up mostly by individual enterprise, but modern war is so complicated that unless we are grounded in its general principles, and have a true understanding of its realities, we are bound to come to grief. When officers have thoroughly grasped what war is like, and realize what can and what cannot be done with our army, then by all means let their individual tendancies have full play. We should hear less about the necessity for cut-and-dried methods if our army were better grounded in the elementary whys and wherefores of the different methods of making war, and if officers were instructed not only in general principles but in applying these principles to concrete problems. We require first-class instructors who themselves thoroughly understand the teachings of our General Staff. This appears to be our difficulty.

Beyond our field service regulations and training manuals, we have no sort of authorative literature on war. The regulations are naturally very condensed and deal with general principles, no attempt being made to apply them. Many officers are unable to apply the principles when it comes to dealing with an actual problem. It is in this application that practice and instruction are required.

Something might be done in this direction if military history were studied more with a view to its lessons for the future than with the idea that knowledge of a campaign is, in itself, of any value to a soldier. This, of course, is a platitude, but the fact remains that our officers do not, as a general rule, study war from this point of view. It is doubtful whether our examinations for promotion, and even for the Staff College, encourage officers sufficiently to try and apply the lessons of the campaigns which they are being examined in. We have certainly improved in this direction. Importance is no longer attached to dates or to the names of commanders and units; officers are now required to state the lessons that they have learnt; but they are not asked to apply the lessons to concrete problems, which, after all is said and done, is the real test as to whether value has been obtained from the study of the campaign. If our history examination papers contained at least one problem, and officers were asked to work it out and to state how their decisions were affected by the lessons of the campaign, then we might find that military history would be regarded in a somewhat new light.

As a general rule, it is seldom of practical value to ask officers to state what they would have done if they had been Napoleon, Wellington or Moltke at a certain date; this is not the sort of problem that is going to face us in the future. Far better value would be obtained from the problem if it dealt with modern conditions.

What were good solutions formerly are not necessarily good solutions to-day. The lessons are there certainly, and to that extent it is always good value to study history from this point of view. But we should go further, because modern inventions, such as quick-firing weapons, smokeless powder, aeroplanes, railways and motor vehicles, etc., have naturally altered the application of the general principles of war—and it is just this application of old principles that should be taught. This especially applies to anything approaching tactics, and to a great extent to strategy also. Moreover, if questions were set in the military history paper which obliged officers to think out for themselves how to apply the lessons of the past to present conditions, much would have been done towards encouraging the correct study of history.

Our present system of examination in military history does not encourage officers to study campaigns with their minds intent upon how to apply what they read to modern conditions. This, and this only, is the value to be obtained from studying past campaigns, and it is for this reason that the writer is anxious to see at least one problem in all military history examination papers.

When we look at Moltke's method of instructing the German Army, we find that he used to produce problems, and that he himself would give a solution, explain his reasons, and the principles which guided him. To a great extent by means of a series of these exercises he gradually instilled his idea of war into the German General Staff. Moltke dealt with the application of principles, not with the principles alone.

As a race, with few exceptions, we are singularly devoid of imagination—a spade is a spade, and there is no more to be said about it. This quality has many practical advantages, but it does not conduce to the forming of sound ideas

of war unless the individual has had considerable personal experience.

The ordinary Englishman seems singularly incapable of applying the lessons he has learnt unless the problem he is confronted with is almost exactly similar to some situation in the campaign he has studied. His imagination altogether fails him. He either comes to the conclusion that military history is a snare and a delusion—or, being quite determined to get full value from his studies, he insists on treating a small stream as though it were an unfordable river which played an important part in some campaign. Much might be done to rectify this, if officers from the day they joined the service were taught to study history in a more practical manner. But the instructors must be first-class, and their teaching should always be directed to applying the lessons of the past to situations which may face us in the future.

We are also perhaps inclined to study too many wars, and do not really master even one phase of a campaign, with the result that frequently wrong lessons are drawn. Many officers have read a great deal, but few have read deeply.

We are somewhat handicapped in our military literature; it is difficult to find works in English which give all the details required; most of our books leave out the personal element, and few give the information actually in the possession of the commanders when they formed their decisions. Without this knowledge it is impossible to form an opinion as to the correctness of the commander's action; nor can we say whether another and a better system might have been employed to gain information; nor can the state of uncertainty in which commanders are kept in war be realized. Unless these things are understood, we shall go to war most inadequately equipped for the trial awaiting us.

Superficial study of war is responsible for many of the theories we see advanced; the theories are often plausible, but they are not always war. There is, also, a danger of building up theories on war based upon peace training and maneuvers. No matter how good maneuvers may be, they can only represent war up to a certain point; therefore, we should be careful not to arrive at wrong conclusions, or

allow ourselves to imagine that maneuvers and war are anything more than second cousins.

To refer now to the subject of writing orders. It is impossible to discuss the question of training for command without also considering the writing of orders, as it is only by means of orders that a general is able to command.

After the South African War great importance was, very rightly, attached to giving the object to be attained, while the method of attaining it was to be left to the utmost extent possible to the recipient of the order.

No one can dispute the correctness of this principle, but to apply it is another matter. The subject requires the closest study and much practice. If we try to apply it in a casual manner there is every chance of our doing more harm than good.

Many officers seem unable to differentiate between the object to be attained and the method of attaining it; others err in the other extreme, and word their orders so that the subordinate commanders can do almost anything, with the result that all control by the superior general is lost.

Not only do we find some officers falling into the first error and others into the second, but, curiously enough, it is by no means rare to find the same officer committing both errors in the same set of orders. This shows that the subject has not been closely studied and reasoned out, otherwise these mistakes would not occur.

The first form of error, i. c., confusing the true object with the method of attaining it, is usually seen in the orders and instructions issued to cavalry or to other troops on a more or less independent mission.

It may be that the commander wishes to keep the enemy's advanced troops at a distance, and, under cover of his own cavalry, hopes to bring up his main columns so as to surprise the enemy. This being his object, he studies the map and comes to the conclusion that the enemy will probably advance from a certain direction. Further study of the map leads him to the conclusion that the best way to attain his object is to order his cavalry to seize some high

ground or secure a certain locality—both very favorite objectives for cavalry in our army.

The order is then written, and the cavalry commander is told that his object is to seize the high ground or to secure the locality, the writer of the order being doubtless under the impression that he has applied the principle enunciated in Field Service Regulations, as he argues that he has given the cavalry commander his object, and has left him a free hand as to the method of attaining it. As a matter of fact, however, he has mis-stated the object which the commander had in his mind; but he sends the order out all the same, in blissful ignorance that there is anything wrong, or that he is laying up trouble for the near future. Even when the trouble has taken place, and everyone is busy looking for a culprit, it is seldom that the blame is attached to the right person, i. e., the writer of the order.

Sometimes, but not often, the enemy does what he is expected to do, and all may go well. Even then the cavalry commander could have carried out his mission just as well if he had been given his true object; he would have seized the high ground or secured the locality if by doing so he would have achieved his object.

What generally happens, however, is that the enemy does something that he was not expected to do, and the occupation of the high ground or locality is useless, and perhaps, even positively dangerous. The cavalry commander finds himself actually hindered in carrying out his proper task by the orders of his superior, the trouble being directly attributable to a lack of clear thinking on the part of the writer of the orders, and to his failure to apply correctly the the principle laid down in the Field Service Regulations.

It is not meant to imply that cavalry should never receive orders to seize certain localities. Far from it. The real objective may be to secure a passage across an obstacle, and in such cases the orders should say so definitely. But the commander should be very sure that the place to be secured is his *real* object.

An excellent little pamphlet called the "Art of Command," by Colonel von Spohn, has been translated by the

General Staff; it discusses the subject of orders and puts the case clearly. It is a pity that this pamphlet is not more generally known throughout the army.

Time and again, both at staff tours and maneuvers, we find mistakes made which are caused by the bad wording of orders; with a little care these mistakes should never occur. Unless more attention is paid to the subject, bad habits may be acquired which will lead to disaster in war.

The second form of error, i. e., allowing subordinates too free a hand, is usually seen in the orders to troops who are working under the immediate control of the superior. We do not differentiate sufficiently between the class of order required by officers who are acting more or less independently and by those who are under immediate control.

In the latter case the method of achieving the object is to a greater extent a matter for the superior, and it is for him to say more definitely how the subordinates are to act. It will often be right and proper for the superior to say this or that locality is to be occupied by a certain time and in a certain strength. If the superior is to retain control and really command, he must give such orders as will ensure his wishes being carried out. The subordinates should, certainly, be left as free a hand as possible, but always provided that the wishes of the superior are carried out.

It may appear that what has been said is only a splitting of hairs, or that the subject is so simple that any ordinary commander or staff officer knows all about it; but the fact remains that our orders are not, as a rule, good examples of what orders ought to be. Few officers have given serious thought to the subject; consequently, atrocities are committed with the greatest complacency, and are even repeated without the writer being aware that anything is wrong. What is required is practice in writing orders, and above all good instructors who will carefully consider the wording and can explain where mistakes have occurred and show officers how the order should have been expressed. These instructors are required not only at places like our Staff Colleges, but throughout the service in commands both at home and abroad.

THE STRATEGIC RECONNAISSANCE SERVICE.

By Colonel JOSEPH BREIT, Austrian General Staff.*

CONDITIONS under which the larger bodies of cavalry have to perform reconnaissance service are so different in each case that it is impossible, if not altogether a grave error, to lay down any hard and fast rules to govern all cases alike.

The general situation, the distance separating the contending armies, the manner in which the hostile cavalry is used, and other means employed by the enemy to gain information, the conduct of the inhabitants in the theater of war, conditions of the terrain, and finally the season and in some measure weather conditions, are the more important factors governing the formation of a larger body of cavalry on strategic reconnaissance.

The actual activities of bodies of cavalry on reconnaissance service commences at the inception of the strategic march into position; that of a body of cavalry being at the frontier commences at the opening of hostilities. In a normal course of the war, corresponding to European conditions where the two opposing forces are probably always very near the frontier, the following phases in the reconnoissance service of bodies of cavalry may be differentiated:

- (1.) Duties before and during the strategic march into position.
- (2.) Duties after crossing the frontier to the first hostile contact.
 - (3.) Reconnaissance activity during the battle.
 - (4.) Reconnaissance activity after different contacts and

^{*}Translated from Kavalleristische Monatshefte, by M. S. E. Harry Bell, U. S. Army.

conduct of the main body of cavalry during the pursuit of the enemy or our retreat.

- (5.) Reconnaissance activity after the close of pursuit or retreat up to next contact.
- (1) Reconnaissance by cavalry during the strategic march into position is a task hard to solve because it has to be carried on in secrecy, by not too numerous nor numerically strong detachments, and made more difficult by the fact that detachments and patrols can cross and recross the closely watched frontier only by employing cunning and artfulness. This duty is also exceedingly dangerous as detection in the enemy's country means probable annihilation because detachments and patrols have of necessity to be made numerically weak and thus lack proper resistance efficiency. Still, in order to be able to prove the correctness of information received through spies and through other methods concerning the march into position and concentration of the hostile forces on the one hand, and on the other to gain entirely new information concerning the strength, intentions, and morale of the enemy, it appears absolutely essential to send "feeling" organs far into the enemy's country at the very first stages of the campaign, in order to gain timely knowledge of the grouping of the hostile forces during the strategic march into position as well as the concentration of different groups, shifting of concentrations and other measures taken for the march to the front as well as of construction and occupation of probable defensive positions.

For these duties the detachments or patrols should be numerically weak, but composed of only the best and tried men; should be well mounted; if possible, composed of single officers; or, best of all, of volunteers for such danger ous service. Needless to say that these patrols or detachments will, as a general rule, have to solve their task during night or fog. Being weak and considering the dangers attending the ride back, numerous messages cannot be expected of them. Therefore these patrols and single troopers should receive definite and precise short tasks, because the fulfillment of manyfold tasks or such which require much time or much deployment of force is out of the question. Conse-

quently reconnaissance and observation during this period should be confined to gaining information concerning points of value only to the highest leader in coming to his decision; ascertainment of minor details can easily be left for later reconnaissance.

For these reasons it appears best to charge officers of the general staff and officers of the technical branches of the service with such tasks, or to attach such officers to the respective patrols.

The officer commanding the cavalry guarding the frontier issues the necessary orders for such details and reconnaissance work until the arrival of army headquarters in the field which thereafter is charged with that duty; if there are more than one army in the field, these orders are then issued by general headquarters.

During the reconnaissance of the hostile territory by patrols, etc., the main body of the cavalry, sent ahead to the frontier for protecting the strategic march into position and reinforced by infantry, artillery, technical troops, etc., is strung along the frontier in groups composed of one or more squadrons, of a regiment or brigade, according to terrain conditions and importance of the different frontier sectors. Each one of these groups maintains, during day as well as during night, a continuous patrol service along the frontier, and across the frontier at favorable opportunities to disturb the enemy on outpost and to ascertain conditions as to position and location of enemy, terrain, streams, obstacles, etc. The strength of such patrols and reconnaissance detachments differs with the different tasks set them; very often entire squadrons may be employed for such service.

With exception of the units on outpost, etc., the remainder of the groups may be kept closely together at the most convenient point to timely give assistance and support to the detachments on outpost, etc.

(2.) After completion of the strategic march into position begins, as an introduction to subsequent operations, a new activity for the bodies of cavalry, *i. e.*, crossing the frontier and commencing the strategic reconnaissance proper.

In order to tear as many gaps, and as large ones as possible, in the line of the hostile frontier guard troops, it appears best to form in each cavalry division several invasion groups, which should be supported by the other arms, especially by artillery, according to conditions of terrain and the resistance expected to be made by the enemy. In this, a part of the cavalry will have to be dismounted partly before and partly after crossing the frontier, while the remaining part executes the breaking through and the attack mounted. It will depend entirely on operative, tactical and terrain conditions whether the single groups within the cavalry divisions are inserted simultaneously for breaking through or whether it may be more advantageous to make an attempt earlier at some other place or on a flank, to draw off the enemy's attention from the projected main point selected for breaking through. The patrols and detachments charged with reconnaissance in the hostile terrain, properly instructed before the start, are attached to these breaking through groups, to enable them to immediately start for the front after breaking through has been accomplished. Whether these patrols should be of a strength of from ten to fifteen troopers, or whether whole platoons or even squadrons should be employed on that duty, depends on the amount of resistance expected to be offered by the hostile security detachments, and further depends on the distance to the hostile infantry masses which are to be reconnoitered. If the latter are not very far off, numerous well led patrols will be sufficient, fol lowed at a distance of some five km. by groups from the main body of the cavalry bodies as support and receiving groups. The cavalry divisions on the wings will do better, however. to send whole squadrons to reconnoiter the flank and rear of the enemy, mainly for the reason that here there will be more room for the cavalry to take up broader and deeper formations than there is generally found in the center. Each division will send out one or two of such information squadrons, which in turn send out patrols for detailed reconnaiss. ance. The main bodies of the divisions on the wings should, as a rule, be kept together, to have and to hold the superiority in contact.

(3.) Immediately before and during an engagement (battle) the largest part of the near reconnaissance is taken over by the divisional cavalry attached to the different army corps and by the infantry.

As the distance between the contending fighting forces continually decreases, it is well, for the purpose of forming and getting into hand a passably strong body of cavalry to collect the patrols and squadrons heretofore on reconnaissance service into one body and to leave only such out in front which are expected to operate on flank and in rear of the enemy, to furnish information concerning the bringing up of hostile reserves, happenings in rear of the hostile army, ascertainment of hostile wings, etc. These patrols and detachments, however, must definitely know that they cannot count on support of the main body of the cavalry divisions, because the latter will now have to give their entire attention to the engagement or battle.

(4.) From the moment the decision has fallen the cavalry main bodies have their hands full with tasks which draw them away more or less from reconnaissance service. Some of these tasks are: To fully gather the fruits of victory in the pursuit; to make the enemy's defeat more thorough and complete; to hold the enemy as far away as possible from our own troops in retreat. In the majority of cases, especially in the retreat, this will mean that the cavalry must be kept together as much as possible in one body, for smaller bodies of cavalry will have but little effect on the enemy either in pursuit or retreat.

However, together with arranging for these duties, proper steps should be taken for the continuation of reconnaissance by patrols, so that touch may never be lost with the enemy. For this purpose all patrols in touch with the enemy must, without waiting for special orders to that effect, continue in close contact with the retreating or pursuing (as the case may be) enemy and must immediately report where and when the enemy comes to a halt. New patrols or detachments should also be sent out, charged with the same duties, by the cavalry as well as the infantry commander. These patrols may on the whole be made weaker, as their observa-

tions can be carried on, as a general rule, without having to fight, and because, being in close touch with their main bodies, they need but few men for sending back reports.

(5.) After conclusion of either our pursuit or our retreat, the entire cavalry can again take up its reconnaissance service. If the two opposing sides are far apart, the intervening space may well be divided into two sectors: One sector two or three days march in front of our army front, the other sector from there to the enemy or to a line sharply defined by either a chain of mountains or large stream in the theater of war. The latter sector we would designate for the far, the fomer for the near strategic reconnaissance. In consequence of the daily advance of the one or the other side, the far reconnaissance sector will become smaller from day to day, it may therefore be designated as that of the far reaching, less intensive strategic reconnaissance, while the near sector is the one which the independent cavalry has to reconnoiter in detail. For reconnoitering the far sector, patrols will as a rule be employed, which have to be made considerably strong as they will have to stay out for days at a time; they should never be of less strength than a platoon. The patrols, to distinguish them from others, might be designated as independent information patrols.

Of course, the number of such patrols depends on different existing conditions; in general we would send out just as many patrols on that service as there are squadrons on the same service employed in near reconnaissance. Each main line or direction of advance should be covered, however, in each case by one patrol, without, however, forcing that patrol to stick to line or direction absolutely. It will be the task of these independent patrols to learn in general only if there are hostile forces in that sector; if there are large bodies of the enemy present, plain signs will be found along the route, and the patrol need not search a large tract of country thoroughly to learn this fact, for which they are not strong enough anyway, nor have they time enough for that. An independent patrol may also be charged with ascertaining the truth of reports received from other scurces as to pres-

ence of hostile forces in some village or other and with gaining reliable data concerning them.

In consideration of the dangers and vicissitudes to which the patrols are exposed, their commanders, members and horses should be selected with the greatest care; men volunteering for such service should receive preference. The commander should be left a free hand in the matter of connection, subsistence, sending back reports, etc.

For purpose of reconnoitering the near strategic reconnaissance sector we have the information squadrons and their patrols. It hardly seems necessary to discuss the number of such squadrons to be sent out, their composition and strength, the sector each one of them and its patrols are to examine, etc.; because text books and other military publications are filled with such information. The same holds good of their order of march. The following only deserves mention:

As long as there is more than two days' march between the main bodies of the hostile cavalry, used on strategic reconnaissance, from the line of our information squadrons, the main body of our cavalry divisions can march in groups or by brigades, depending on facilities of quarters and subsistence, several kilometers alongside or behind each other. This will assure quick support of the information squadrons marching on the wings. But when two days' march or less distance intervenes, the main bodies should be kept together. to have the numerical superiority, if ever possible, in the contact about to ensue at any time with the hostile main body. Considering the rapid course of cavalry battles, we can never count with certainty on having our forces together where wanted if the different units march separated. Should the sector to be reconnoitered be divided entirely by a strong obstacle, we had best form two entirely independent reconnoisance units alongside of each other.

Concerning the distance between patrols and information squadrons and between the latter and the main body, I would council *short* distances, because this will facilitate quicker messenger service and make less demands on horseflesh. I believe that five to six km. for patrols and fifteen to twenty for information squadrons is sufficient. The pat-

rols to be sent out by the information squadrons can, as a general rule, be kept weak; keeping to the above mentioned distances, four to six troopers will be found sufficient for any patrol.

Under normal conditions in normal country, I imagine the reconnaissance duties of the cavalry divisions to be carried on as follows:

- 1. At Commencement of War and During the Strategic March into Position:
- (a) By a few weak, but specially selected patrols and single troopers sent into the hostile territory to reconnoiter conditions with the hostile main body.
- (b) By numerous, strong patrols going as far as the frontier, and in exceptional cases across it, to observe the activity of the hostile frontier guards and outposts; to gain information concerning certain objects in the terrain, obstacles, etc.
- (ϵ) A part of the main body of the cavalry division to be on outpost service.
 - (d) The remainder resting on its arms.
- 2. From the Commencement of Operations to the First Contact:
- (a) In front of the army by numerous strong patrols, to be followed by the main body, possibly in several groups, with not too much distance.
- (b) On the wings by a few independent information squadrons, which on their part send out weak patrols for short distances; the main body following, closed up, a very short distance.
- 3. During the Engagement and Battle:

Reconnaissance is carried on exclusively by strong patrols still out, or sent out anew, and information squadrons. The main body, held together in fighting readiness, awaits favorable opportunity to participate in the battle, be that with the saber in hand mounted, or for the fire fight dismounted.

4. During the Pursuit and On the Retreat:

All patrols in touch with the enemy and all reconnoitering detachments must stick to the enemy. The commanders of

cavalry and infantry will send out additional numerous though weak patrols to keep up touch with the enemy. The main body of the cavalry division has other duties to perform, interfering with proper reconnaissance duties.

5. After Conclusion of Pursuit or Retreat:

Now commences the organization and grouping of the entire cavalry for purposes of strategic reconnaissance proper. In this two zones may be perceived, that of the far and that of the near strategic reconnaissance service. To reconnoiter the first zone, strong, independent information patrols are sent out; information squadrons, sending out weak patrols, perform that service in the second zone. Only when far from the enemy follows the main body by groups or brigades, in all other cases it follows closed up behind the center or behind the most important flank.

It should be understood that the above discussed manner of grouping and using the cavalry bodies in the service of reconnaissance must not be taken as suitable to all cases. It should specially be modified in country hard to traverse, such as mountainous terrain, marshy country with complex woods, etc., when it is out of the question to send single patrols far to the front. In winter also, when there happens to be much snow, making all by-roads unrecognizable, grouping of the cavalry bodies will have to be simplified. All these exceptional cases, however, cannot be discussed here on account of lack of space.

Since we have come to the perception that the cavalry divisions are much hindered in their movements by attaching infantry to them, cavalry machine gun detachments have increased in value. It undoubtedly would be advantageous to attach to a division two such detachments instead of only one, which could perform excellent service in battle as well as in opening defiles. Were such the case single information squadrons might receive one machine gun occasionally if thought necessary.

To attach infantry detachments to cavalry divisions appears to be justifiable only in exceptional cases, i. e., to occupy lines of obstacles in rear of the cavalry, thus simultaneously

serving for screening purposes by preventing hostile cavalry detachments from crossing these obstacles, etc. Infantry may also become useful in taking over relays for messages to the rear, guarding assembly stations and trains, etc. It is especially advisable to relieve the cavalry from the last named service. Very desirable also are cyclist detachments attached to cavalry divisions; they would perform good service and make the attaching of infantry detachments superfluous. There is no need to discuss the question of attaching technical means to each cavalry division, such as telegraph, telephone, visual signaling and wireless detachments; that these means are now-a-days absolutely necessary to cavalry in the field, no one will deny.

IMPROVISED ARMIES OF THE NINETEENTH CENTURY.*

A HISTORICAL ANALYSIS.

By T. MILLER MAGUIRE, M. A., LL. D., F. R. HIST. S.

WE have come here this afternoon to discuss the lessons of wars not only in Europe, but also in other Continents. As the gallant officer in the chair has reminded me, this is not the place for acrimonious politics or party politics of any kind, or for personalties. In this hall, this afternoon particularly, we are bound to confine ourselves strictly to one subject, and that is, how history views the transactions of politicians or generals, or nations, small or great, who commit their future to speculative philosophers and rationalists, to improvisation, to temporising and to extemporising. Vote catchers court disaster; they ought to be at least as careful about the building of great Empires and Kingdoms in their charge as they are about their own dwellings and

^{*}From the Journal of the Royal United Service Institution, September, 1911.

about the insurance on their shops and mansions. That is simply the subject that we have to discuss, this and nothing else, and as Bacon says, it is a topic worthy of careful attention by princes and statesmen who would sow greatness for posterity.

ARBITRATION AND THE MILLENNIUM.

Now, at present in the air there are notions about a New Era, an Era of Peace, an Era of Arbitration, an Era of Prize Courts and other Courts, which are immediately, by the skill of lawyers, to abolish the necessity for admirals and generals and to start the good ship "Millennium" on her voyage. It is nothing to these that the good ship is not even complete: it is to be started on its future voyage before being constructed. For my part, I have not the slightest trust in arbitration as a security against national wars. A nation that has a good case is not going to lose that case by arbitration in a crisis. A person will not arbitrate about his honor, except it be such a person, who, as Sheakespeare says, may well swear on his honor, because he has none and therefore he cannot be perjured. There are questions about which no nation ever will arbitrate if that nation is fit to continue an independent existence. We love peace, and I may say that no men love peace more than the gallant officers of both our services, and we are bound to preserve peace to the utmost; but the time must come with us again, as it has in the past, when we must fight, and if we are not ready to fight we may be beaten; and if, by reason of the happy position of our islands, we escape disasters which will occur at once to nations with other than sea frontiers, or even if we ultimately win, we shall only have won at a cost enormously greater, in money and in life and in risk and in sorrow of women and in woe of children, than we would have endured if we had been more ready, and ready sooner. Now, this result is well worth preparing for and well worthy of careful study and of self-denial.

LESSONS FOR POLITICIANS.

Although I start in the nineteenth century I might equally well have started in any other century. I am only

going to speak here this afternoon of the experience set forth by writers as to the nineteenth century, which experience is condensed in these few volumes that you see before you; if the politicians sitting within a few hundred vards of us to-day would only carefully study "The Valor of Ignorance," an American book, they would save the nation in all probability many millions in money. If that book, or similar books, had been studied - "Napier" for example, or "The People's War," by the veteran officer I see before me, Colonel Lonsdale Hale -we should be in quite a different position now. If the politicians would study, for example, Colonel Lonsdale Hale's book, they would not need to trouble themselves very much about going into many details of the history of the nineteenth century. Such as the defeat of the forces of Chanzy and Faidherbe after the capture of Orleans, which he describes, and the awful calamities of Bourbaki's corps. But they will not study these questions which do not interest the partisans of the hour, and therefore we are here for about the hundredth time recapitulating and discussing the most certain "oracles of time."

The philosophy of the ancient historians and poets and writers every schoolboy should be well acquainted with on leaving his public school. They are only the old proverb repeated almost "ad nauseam": "Si vis pacem para bellum." For peace, for commerce, for honor, prepare for war in time of peace. That is all.

ENGLAND'S POSITION IN THE NAPOLEONIC ERA.

When this century began we were not in anything like as dangerous a position with regard to our future, or the potentialities of our future, as we are now after our nation is another hundred years old. Let me point out that Napoleon, at the beginning of the century, crossed the Alps and won the great battle of Marengo, and he immediately proceeded, having made peace with Austria, to organize a new army after the fashion of the Romans. That new army was located along the French coast in 1804–5, and it was thought that it might possibly invade England. The English people, considering the time and the resources, made most creditable

and strenuous efforts, and as a matter of fact had been doing so for years before. The consequence was that they had absolute command of the sea, and Napoleon was not able to cross the channel. His naval force-relatively small-if not in numbers at least in fighting power-was beaten, not as is generally supposed at Trafalgar, but off the coast of Spain, near Cape Finisterre. When that naval battle between Calder and Villeneuve took place, before Nelson's return from the West Indies, Napoleon's dream of an invasion of England was over. With startling rapidity he put in motion that army which he had just organized so completely as to surpass in mobility the Roman legions, each corps a complete entity in its place. Armies had previously been divisions, and before that, integers. Having got these corps so organized, in the twinkling of an eye almost, he was across the Rhine into Austria and by the 19th of October he had taken Ulm. He was in Vienna in November; at Austerlitz in December; in 1806 he was in Berlin; in 1808 he was in Madrid. But ours was a mare clausum. And yet we were not in as serious a position, relatively, as to resources and as to risks as we are in now. Because, as will be told you in a very short time, the Pacific is the new center of international gravity (as we proved in 1904); we have now to deal with new powers and new situations, whose activities, whose resources, and whose ambitions are unfortunately greater relatively to our empire and more easily carried out and put into effect than were Napoleon's schemes.

Napoleon, as a matter of fact, had no chance whatever of commanding the sea from 1805 till his death, and he could not touch from that date any part of the United Kingdom of Great Britain and Ireland.

NEW POWERS AND NEW SITUATIONS.

Just look at this map of the world; here you have new powers and new situation. Japan is not at all likely to sit down to a millennium. The Japanese are not philosophical humanitarians. They are mere men but they are practical people. All Australasia suspects that they have their eyes on Australia and accordingly the Australians are beginning to prepare for war.

Here is a great nation, the United States of America. We are told that we are going to have an era of universal peace, not only with America but with everybody else. Well, I will suggest one practical question. Are the United States of America going to arbitrate about the Monroe doctrine? I have here before me the statement of most eminent Americans that it is perfectly out of the question to suppose the United States and its people can have a reign of peace, having regard to the principles of the Monroe doctrine.

There is another little matter here that will alter the whole face of the world even more than the Suez Canal, and that is the Panama Canal and its proposed fortification. Have regard to the fact that Russia is moving again; have regard to the Mexican question -- Mexico was a big question before the war between France and Germany in 1870, causing great trouble and distress - I ask any gentle Arcadian shepherd to tell me if he still thinks that this state of things indicates that we have reached an era of eternal peace? You will see in your Sunday "Observers" that the Latin race of South America have not the slightest intention of adopting an era of peace that is incompatible with their interests, and that they resent the Monroe doctrine and the idea that they ought not to launch forth into careers for themselves. Have our front bench men read carefully the annals of Chili and Peru and Brazil?

PROVIDENCE AND SELF-RELIANCE.

Such are some of the conditions that ought to teach us to pay attention to some, at any rate, of the facts of history, so that we may have guidance for our readiness if by chance any war does come, although of course we must fervently desire that war should not come. We must not merely trust in Providence that it should not come, but as the Ambassador of Australia, Sir George Reid, recently said, we must cease to trust in any Providence external to ourselves, and must remember that in ourselves, and in forces given us by

Nature and by our Creator, Providence largely consists. That man will be providentially situated with regard to his family who takes skilful measures for the protection of their health and education and food supplies; that man will be providentially situated and will earn the esteem of Providence who with regard to his nation, acts with reasonable forethought and does not trust to mere improvised bravery in the defense of his nation and his empire The rich man who trusts to poor men, the man who will, as an American general said, deliberately hand over to poor boys, half drilled, badly armed, without a proper commissariat, the honor of his country, is not a man providentially situated. With regard to the commissariat, armies march on their stomachs, we are told; shall we give them empty stomachs before they rush to death, and send them into action with a weapon a few hundred vards inferior to that of their opponents? The man, or the nation, who takes this course is despicable.

THE FUTILITY OF GUERILLA WARFARE.

Now a word with regard to guerilla warfare Napoleon became master of Europe after his corps, representing the old Roman legions, had entered into Rome, Vienna, Munich and Berlin, and commanded Europe from the Rhine to the Vistula, and from the source of the Danube to Bohemia — then he tried to ruin England's commerce by Berlin and Milan decrees. As he could not get across the sea to conquer the United Kingdom he tried another scheme, which might well be in the minds of the negotiators of the Declaration of London—a Declaration which apparently no one can understand, and which seems to fly in the face of history. Having failed to cross the sea and to invade England, and having beaten the allies of England in Austria and Prussia, Napoleon tried to get on the flank of England, just as Australia is on the flank of Japan or Japan on the flank of Australia, or Hawaii on the flank of Japan or Japan on the flank of Hawaii, or Canada on the flank of an American stragetic line drawn from San Francisco to the Philippines.

He tried, I say, to get on the flank of the British Empire and to seize Spain and Portugal, but Junot was soon driven out of Portugal by a small army of English, and the guerilla warfare started in Spain. It would take me hours to deal with that alone. Although the Spanish were brave, determined, reckless of their lives, occasionally brutal and cruel to the enemy, yet it was not the Spanish guerillas that defeated Napoleon. I will leave it to Colonel Lonsdale Hale to say whether Napoleon's defeat was due to careful study or to improvisioned speeches on political platforms. The gruellas failed to do more than threaten the lines of communication. It is a certain fact of history that the deliverance of Spain was mainly due to the regular well-trained army of the British. In fact, the great French authority La Pene agrees with Napier and Alison. It was not the guerillas but the regular army of the British, based on the invincible power of the sea, that was the cause of Napoleon's defeat.

When Napoleon for the second time entered Vienna as a conqueror in the year 1809 the people of the Tyrol proceeded to organize guerilla warfare. They were brave, as mountaineers nearly always are; they had very fine tactical leaders for mountain warfare, among others Andreas Hofer. But did they win? Certainly not. They were forthwith beaten, and after some struggles Hofer was, in my opinion, most unjustly executed. But go where you will I contend that these mountain races, like the Afghans and like the Highlanders of Scotland, can give quite a considerable amount of trouble, as did Schamyl and the people of Circassia, but they do not win, and cannot win against great invasions of regular armies. They fight well, only to be beaten. The people of Afghanistan may have surprised and ruined one British force, but the forces under Roberts invaded Afghanistan and the Afghans were defeated

I might go on lecturing about guerilla warfare the whole afternoon, and the lesson would be still the same, that when the enemy brings against them the full force of organized and civilized States, with the determination to stick to it, and with the necessary amount of valor, guerilla warfare is soon at an end. And nearly every State has the necessary amount of valor. It is not exactly the fighting that men fail in. It is the wisdom in fighting that men fail in. Bravery with-

out skill in any walk of life is an absurdity. In war it is a form of insanity. Once civilized people know how to deal with mountaineers they crush them.

I may mention here the Irish and the Scots, who have played not an inconsiderable part in the history of the British Isles. The Highland Scots were able to make a rush against Southern Britain in 1745, but once the British gathered together a regular army, even the mercenaries and foreigners, the Scots soon had to retire. Their fighting was of no effect once the dragoons had pulled themselves together and the forces had come from the Netherlands. I have here the view of "Prince Charlie" himself in a book called "The Irish Brigades in the French Army," by O'Callahan, who quotes the views of Prince Charlie and also the views of MacDonald, whose skilful leadership did not cause them to succeed. They said that if they could only have had in the campaign of Culloden about twelve hundred regular soldiers such as a few members of the Irish Brigade lent by the French king, and some Scotsmen also, such as had fought on the Danube in the Thirty Years War, there is not the smallest doubt they would have won the campaign of Culloden, and I believe the Duke of Cumberland himself was of the same opinion. The Duke had seen war on a grand scale on the Continent.

THE MEN OF A NATION.

I must drop now all kinds of guerilla semi-civilized warfare, and come to the wars carried on by great States of enormous means and of vast territory, who will not listen to what Lord Bacon calls the "most certain oracle of time," who will not be wise in time, who are eaten by the canker of wealth. The moment that a State begins to be so wealthy that it worships money the State becomes poor in men. Poverty really consists in deficiency of "moral," deficiency of brain, deficiency of body, deficiency of soul. What will it serve a man or a State to obtain the whole world's gold if he has not these four essential essences of true greatness? One thing is sure, that neither numbers, nor wealth, nor armaments, nor frontiers, nor navies, nor anything material whatever, has in any age saved any State in any crisis. There is

only one condition that can give security, and that is high spirit, plenty of courage, and health of body in strong men fit to be soldiers; not weaklings, but men fit to be soldiers.

Mark you it is false to say that Napoleon won with improvised conscripts. He won his great campaigns with the Grand Army and as the quality of his troops diminished, so his columns were deepened. The raw boys that rushed to the field in 1813 perished on the march, and he is as eloquent on the merits of veterans as was Napier himself. Our soldiers must be men fit to bear the burden of our empire on their own backs skillfully organized for war betimes. I shall try to prove this doctrine for the remainder of my lecture.

AN EXAMPLE OF IMPROVISATION: THE CRIMEAN WAR.

We have been told over and over again in the lifetime of many of us here, and it was said in the days of our fathers, that universal peace was about to hover over us and was about to come—as the Latins said, Astræa would supplant Minerva. In 1851 we had an exhibition of our wealth and commerce. After that exhibition we were to have no more war; that exhibition was intended to illustrate the triumph of commerce and the riches of our State and was to be the beginning of a new era, as the Observer newspaper says of Sir Edward Grey's speech. Now, Sir Edward Grey may be an excellent man, but if he only had studied a little more of these books I have in front of me, he might not perhaps have been so sanguine. The exhibition was a splendid one, and I am perfectly certain much money changed hands, but it did not inaugurate a new era of universal peace. During the exhibition period the Duke of Wellington wrote a little article to the Morning Post and for that article he was as bitterly insulted as a man could possible be. This was said about him:

"His Grace is tottering on the verge of the grave; is it not a most lamentable spectacle that the hand which is no longer capable of wielding a sword should devote its still remaining feeble strenth to the penning of a letter more calculated in the present day to excite passions and animosities in the breasts of two great and neighboring nations?"

The duke did nothing of the kind; he wanted our people

to prepare for war. The philosopher Cobden, who made the attack on the duke, went on to say:

"It is for you taxpayers of England to decide whether you will run the risk of war and keep your money in your pockets or whether you will allow an additional number of men in red coats and blue jackets to live in idleness under the pretence of protecting you."

What wisdom! What foresight!

But only a very few years later these poor boys thus ridiculed by this philosopher ceased to trouble the British nation. They embarked for the Crimea, as Sir Evelyn Wood told us the other night at Lincoln's Inn, without any proper organization whereby an army can live. They had bodies and they had bravery, and they had officers who were willing to die leading them, but the nation gave them nothing necessary to enable them to carry out ther duty with efficiency. What a beautiful philosophy! But it did not keep them alive, did it? It so happened that the Duke of Wellington was right and the philosopher was wrong. It so happened that the Duke of Wellington in 1852 could look backward on having told the truth to his nation, and in the year 1856 the philospher could look backward on having been responsible for the death of 25,000 boys and men in the Crimea, as we were told in this room only a few weeks ago. And of these 25,000 men, 20,000 died through the government, through the government's incapacity and inefficiency which this philosopher helped to promote, and only 5,000 died by reason of wounds inflicted by the enemy! And but for a woman, Miss Florence Nightingaie, many more would have died of disease. That is one specimen in modern history showing what will happen owing to the want of proper organizatian.

Would you like another similar display of philanthropy in the storm centers of the Near or the Middle or the Far East?

AN EXAMPLE OF ORGANIZATION: PRUSSIA.

Between 1861 and 1866 a lot of Prussian "Junkers" took upon themselves to organize the "brain of the army." Professor Wilkinson in his celebrated book has set this forth at length, not at too great length, pehaps too concisely, but he has set it forth well and clearly. Colonel Lonsdale Hale,

ever since, has been preaching the same doctrine.

These "Junkers" and poor scholars from the miserable swamps of the mouth of the Vistula and of the Elbe imitated Napoleon and got together proper army corps. Napoleon imitated not only the Romans but even the Irish of the third century, who absolutely sent and studied the Roman legion system. The celebrated Finmacoul of Ossin was merely the general of that part of the country where I come from myself; in fact he was a captain under one of my own ancestors; I think I like his name, it sounds sweetly in my ears. Finmacoul imitated the Roman discipline and challenged the Romans to invade Ireland and he had his own legions ready for them. Well, the Prussians imitated the example of Finmacoul, and did what Prince Charlie would have done if he could, and what Napoleon did, they got together good corps and the brain of an army. In seven weeks from the beginning of the war of 1866 they had defeated Austria, although all Europe had been told it was quite out of the question the Prussians should beat the Austrians, especially as the latter had South Germany, Hanover, and other small States on their side. But they did.

AN EXAMPLE OF IMPROVISATION FROM AMERICA, 1861.

Let us turn westward. The Americans in 1775 taught their successors of the nineteenth century a good lesson. In 1775 the British had to come thousands of miles across the sea in sailing ships of a few hundred tons, and yet their rebellious children would have been knocked to pieces but for Washington reorganizing the army from the militia into regulars. Three thousand British in point of fact were able to treat the capital, Washington, much as they pleased, and in fact burned its buildings in 1814. The Japanese could more easily, distance being now abolished, put 100,000 men at San Francisco within seven weeks than the British could put their forces on the east coast of American in 1776 or 1778 or 1781 in seventeen weeks. One modern vessel would carry a whole brigade. Therefore every single lesson

that is necessary to learn about preparation in the nineteenth century is of ten times more importance in the twentieth century. Relatively speaking, distance is abolished. Take the Trans-Siberian Railway, or look at the various trans-continental railways crossing that map of the world to-day. Consider that one power has fifty vessels of over 5,000 tons. Compare that with the vessel in which Lord Roberts went to India—600 tons. The lessons in consequence are of stupendous importance—and the danger to us quadrupled, as is the danger to the United States in comparison with that of the year of the Trent incident.

But the Americans thought they would make fools of themselves like everybody else, and although Washington had written that that nation which trusts to a hasty organization or mere militia levies is certain of ruin, the Americans continued to trust to hasty organization and went into the war in 1861 absolutely unprepared. As the Americans were the same race as ourselves, and as Bosh is rampant on every political platform, and in all our press to-day, I read to you the warning General Sherman gave to the government at Washington in what it believed was a mere Southern freak. We all know how, in that terrible war, in an area of operations of only a few hundred miles (indeed, in Virginia in only one hundred miles) 300,000 died, out of a population of twenty millions, in four years, and a thousand million sterling was spent. That could not have occurred if the advice of General Sherman had been thought worthy of serious attention. Immediately after the war began at Charleston and in Virginia, Sherman went to Washington, about the time of Lincoln's inauguration, and he talked about the state of affairs with characteristic freedom.

He believed that war was inevitable; that it would not be a "pantomine of wooden swords," but a fierce and bitter struggle, and he endeavored in fervent language to impress his convictions upon the country. Nobody listened to him except the President, who listened to everybody. Sherman went to him to offer his services in any capacity, but his strong words elicited a smile from Mr. Lincoln. "Oh," says the President, "We will not need many men like you very

long, General. The affair will soon be all over." He needed him for four years, and Sherman had to destroy 400 miles of Georgia and thirty miles on each side of the railway and almost turn the country into a wilderness before he could make sure of his campaign. It was said, "The affair will soon blow over." Precisely the same was said about the Boer War, but the affair did not soon blow over. It would have blown over if Sherman had been listened too, as other wars would have been blown over. Some of Sherman's friends in the army, believing there was to be a long war, urged his appointment to a good position. "Sherman knew the Southern people; the administration of the North did not." The President called out 75,000 men to serve for three months and Sherman urged them to call out a corps. He said that three months' men were no use whatever; "that the affair was not a riot but a revolution, not a mob, but an army." He said, "You might just as well attempt to put out a conflagration with a toy penny water-squirter as try to get to Richmond with these forces."

What do you think of all this? Have not I shown you by two examples that impovised armies whether in our wars and epoch, or in any other nation and epoch are always a danger and may be a disaster to the State?

IMPROVISATION OF MEDICAL SERVICES.

But listen. It is not alone necessary to organize artillery and cavalry and infantry. You must organize hospitals. Now, the Japanese organization against disease did them even more credit than their organization against weapons. The lack of organization against disease was almost incredible in the war in America. The number of deaths from disease in the American Civil War cannot be positively ascertained, but careful calculations show that more died after than during the war. It is said on authority that 190,000 died from disease. I confess this awful reckoning staggered me, but suppose 100,000 died of disease, mark you, all had passed the doctors before joining. Is it not awful? The Japanese prepared and were careful. They put into the war of 1904–5 about 1,250,000 troops of various kinds, perhaps more. The total

number of typhoid cases only amounted to 9,700, and the deaths from that disease only to 2,073. Of dysentery there were 7,600 cases, resulting in 1,800 deaths. When the Americans went to war with Spain (1898), they had a great number more deaths from diseases, in a comparatively short time, than the Japanese had. Why? Because one improvised its medical system, and the other did not! This is a very simple answer. This lesson alone from the United States wars of the nineteenth century is worthy of the most careful study.

RELATIVE VALUE OF CONSCRIPTS AND ENLISTED MEN.

It has been said recently that experience proves that volunteers and voluntarily enlisted men are better men for the purpose of warfare than conscripts and obligatory men. The history of the United States of America alone proves the opposite. Washington warned the authorities that mere roughly organized militia were of no use at all, and Washington was right. The United States of America could not have concluded the war as long as they relied on enlisted men and militia. The United States had to adopt a system of wholesale obligatory military service in 1863, or they could not possibly have reached Richmond and captured it. It seems to me incredible that the platform of this country could resound with such tomfoolery as is now deluding our people! There was no proper organization whatever amongst the so colled volunteers. Do not think that I am going to disparage America. I have friends in America, and I have been as well treated by Americans as any man possibly could be-not by Molly Maguires and that kind of folk, but by really sound, wise and responsible professional business men.

I am taking my figures from American statistics! The number of desertions amongst the regulars in four years was five officers and 16,360 enlisted men of different nationalities. I would not say a word against volunteers—I was a member of the Devil's Own Volunteers myself for sixteen or seventeen years—but during the Civil War in America, the number of desertions amongst the volunteers was 187 officers and 170,000 men. With all their talk about race and blood and

color, and so on, they had to employ negroes as soldiers, and some of the fiercest deeds of valor were done by negroes; take the assault of Petersburg and the mine crater! Yet amongst the colored troops twenty-four officers and 3.440 men deserted. That is a total of 216 officers and 189.000 men deserting during one war. I am, therefore, convinced that you cannot trust to improvisation in time of Civil war, let alone foreign war; and Gustavus Adolphus and Cromwell and "Chinese" Gordon were of my opinion.

The consequence was that nine million Southerners, of whom only five millions were white, the other four millions being slaves, held up the Federals, with all their wealth and armaments, and reduced them to despair till they got proper cavalry under Sheridan, and until Sherman and Grant—who were despised and rejected, and their counsel ignored at the beginning of the war—obtained commands, and stuck to it and won, being lavishly supplied with myriads of troops, tens of millions of dollars, and vast stores of impedimenta.

IMPROVISATION IN THE WAR OF 1870.

The campaign of Koniggrätz or Sadowa was only over for four years when jealous France in 1870 took it into her head to challenge Germany, and I am going to narrate very shortly one of the saddest episodes in the whole history of the human race. If the fall into poverty and distress of any man is deplorable, and if the sighs and tears of any woman must excite emotion in any manly breast, surely the fall a great nation is something more sad still. Surely the death and disease and captivity of 300,000 soldiers in six weeks is an awful fact! The fact that millions of women were sighing and miserable, not an occasional poor woman, such as we see on the embankment by night wanting food and shelter, but 500,000 women and children, not to speak of the men, were shut up for months, and starved and fed on "rats and such small deer," that, surely, was a sad episode. Yet that all occurred between July 15 1870, and January 28, 1871.

Now, I see I am being watched by Colonel Lonsdale Hale, who has taught us so much about the Franco-German War years ago in this hall; that is to say, not only about that

part of the war up to the Battle of Sedan and the investment of Paris. Now, Colonel Lonsdale Hale has recently published a book on one portion of the improvisation, the magnificent improvisation after its fashion, of Gambetta after the investment of Paris was completed. The French took to war in spite of the advice of all the best students of war on the Continent of Europe. A fine general, Trochu, had warned them, in a splendid book, many people here are familiar with, that their army was not fit for its purpose, and would not be for some time. Marèchal Niel, who was alluded to here in the last lecture by General Arbuthnot, also warned them, their attaché in Berlin gave them most significant information betimes, yet they believed they could go to war with a light heart, lightheartedness taking the place of strategy. I remember seeing lightheartedness or hysteria taking the place of strategy in London, people dancing about and kissing girls they had never met before in the streets, all because of one small incident in the midst of the gloom of 1899 to 1900. The French were singing "A Berlin," just as the Americans. a few years before, were singing "We will hang Jeff Davis on a sour apple tree." They did not; and the French did not go to Berlin. It was the people of Berlin who came to France, it was the people of Berlin, where Napoleon had been in 1806, who adopted, with the encouragement of the girls, universal military service. I think the Prussian girls, in that case, deserved kissing. Why? Because no man dare make love to a Prussian girl after 1806 unless he was a soldier. It was the Berlin people who came to Paris in 1870, and not the people of Paris who went to Berlin, Why? Merely because the principle of the brain of an army had been properly adopted by Germany; merely because the German nation was organized for military purposes; merely because, as Von der Goltz magnificently describes it in his able book, Germany was a "Nation in Arms,"

When Paris was invested, corps after corps was improvised in the north and along the Loire and near Belfort and Besancon, and, as Colonel Lonsdale Hale pointed out in his book, as each successive corps was being formed, so it deteriorated, each successive improvisation being inferior to the

preceding one. At any rate, this is true: That the German army not only invested Paris and shut up Paris to starve, not only took Metz and then marched 173,000 French into Germany, not only won the battle of Sedan and took 83,000 prisoners, and drove Bourbaki's 80,000 into Switzerland, starving and bootless in the snow; but they repulsed in every direction every one of these improvised armies. What was the financial result of having improvised armies? Two hundred and sixty millions sterling of indemnity! This war, carried on with such a vast expenditure of forces on both sides, was brought to an end by incessant and restless energy in the short period of seven months; and it cost France 260,000,000 ono sterling paid down to Germany, and about £300,000,000 on its own forces.

We shall be in like case some time or other if we trust to improvisation and hasty recruiting instead of to organization and properly trained men. We shall have our women starving worse than the women starved in Paris if we agree to have our food supply cut off from us by any new system of international law under the Declaration of London. And, above all, we shall be thus ruined if ever any principle of false economy for one year permits our navy to fall below the standard of its responsibilities.

Let me read Von Moltke's short summary:

"Even in the first four weeks eight battles were fought, under which the French Empire crumbled and the French army was swept from the field. The French forces, incompetent but numerous, equalized the original numerical superiority of the Germans. So numerous were the French and so rich that they could put 600,000 men in the field with armaments, and twelve more battles needed to be fought to safeguard the decisive siege of the enemy's capital. Twenty fortified places were taken and not a single day passed in which there was not fighting somewhere on a larger or smaller scale."

We pity the French, and we pity the Germans, too, because this war was forced upon them by the incompetence of their neighbors.

Lord Grenville, the foreign secretary, absolutely assured the country there was not the slightest cloud of war on the horizon in June, 1870, and Mr. Hammond, the permanent secretary, of course, said ditto to Lord Grenville, and informed the nation that he never knew of a time in which there was less danger of war. Yet the Germans lost, a few months later, in dead and wounded, 6,247 officers and 123,000 men. I am quoting Von Moltke himself. That was the German loss. What about the French? The total losses of the French were incalculable, according to Von Moltke. In prisoners alone in Germany there were 11,860 officers and 371,000 men. In Paris, shut up in that city, were 7,000 officers and 241,000 men, while disarmed in Switzerland, wretched, naked, starving, were 2,192 officers and 88,000 men.

THE "ORACLE OF TIME,"

Now, I have given you another example of the "Oracle of Time," that whether you are Frenchmen, Americans, Britons, Romans or Greeks, the most certain oracle is:

"Let no nation expect to continue great that does not make a study of arms its principal honor, attention and occupation."

I have a similar repetition of history to make about the Boer War, 1899-1902.

M. Bloch warned us that we were to have no more wars; but we had several. Kuropatkin warned Russia against the war with the Japanese, but they went into war just the same as though Kuropatkin had never said a word at all. Here is Bloch's book, "Modern Weapons and Modern War," in which he supports the theory of the Hague convention. Councillor Bloch, you will remember, spoke in this room, and said there would be no more cavalry in war, and, indeed, he declared that no force of any army dare face modern weapons. We did not all believe him, and that unbelief was justified because we had several hundred thousand horses dying in South Africa forthwith. Coucillor Bloch said that artillery would sweep all opposition from the face of the earth, and there would be no more bayonet charges, but there have

been bayonet charges over and over again, and the fiercest artillery fire did not stop infantry in Manchuria.

We have recently had another book, a most extraordinary book, before us, called "Compulsory Service." I spent hours wondering what kind of book it was. I saw it was a very long "Introduction," and I looked into about three hundred other books with "Introductions," and I found it was the longest "Introduction" in proportion I had ever seen. The book has an "Introduction" of forty-two pages, and the matter of the book itself runs about 148 pages. It tells us really that we depend on "hobble-de-hoys" for our Empire.

Up to the year 1815 a large proportion of our navy and army men were obligatory service men. We had obligatory service men for the volunteers and the militia, and we had the ballot at the time of the Peninsular War, and for Britons to say that obligatory service men are relatively inferior to any others is to laugh at the past history of England from Creey to Waterloo.

I have here another excellent book, which I have read so carefully that I know it almost verbatim. It is called a "Staff Officer's Scrap book." This is a compulsory service book:—

"How happy would I be with either Were the other dear charmer away; But if both of em's talking together To neither a word can I say."

THE TRUE BASIS OF DEFENSE.

I advise you to read Baron Suyematzu's "Risen Sun," Chapter V, page 144, and see what he says about the true basis of the defense of the State. The Japanese listened to the voice of history. They might be "poor little monkeys," living on remote islands in the Pacific, but they were monkeys who had descended from their trees. I myself did not think they were monkeys. They had a very fine history, even before the war of 1894-5 and 1904-5; they were efficient in every art, and in poetry, and they had a kindly nature. But when the Western people bombarded them about the year

1868, they said to themselves that one or two bombardments were quite enough for anybody. There is a vulgar phrase, "We are not taking anymore," and they adopted it, if not in phrase, in spirit.

They organized, they adopted modern armaments and weapons. Russia, that monstrous State which had rudely shaken the Empire of Napoleon, that State which had gave us so much to do because we were not ready, in the Crimean War, that State, with her enormous population and enormous wealth, by means of that great railway, put into the field in a few months more than a million privates, 25,000 officers, 250,000 horses, 700,000 tons of material, and 1,600 guns. That was done on one railway. Russia challenged Japan, and Russia was beaten by Japan.

THE LESSONS OF HISTORY AND THEIR APPLICATION.

I have only quoted from history several of the lessons of the nineteenth century, and how the last great war has fully confirmed our views, supplementing the history of the past centuries. We are now at the beginning of a new century, which will not be an era of universal peace. Peace, as a matter of fact, might be a bad thing for a nation. I am by no means clear that, from a moral point of view, even war is not valuable as a storm is valuable in the calmest season. The Irish prelate poet Alexander wrote:—

"And as we see how nobly nature forms,
Beneath the war's red rain, we deem it true
That He who made the tempest and the storm
Perhaps made battles too."

I am not at all sure that in the present state of morality and humanity, in the face of such sights as you see in the back parts of your cities, universal peace would be an era of universal benefit for mankind. I do not believe it.

"Adversity doth best discover virtue, prosperity does best discover vice."

This is another lesson of mankind. If you are coming to an era of universal peace, well and good. But if, as I say, you are not, what then? Your Declarations of London, your International Arbitration is worse than vanity of vanities,

because you will have to pay the usual forfeit; and for you with your island home, depending on supplies from all parts of the world, a Declaration of London will be worse than a bombardment of Paris. You must make yourselves as impregnable as God and nature and your resurces will enable you to make yourselves. If you do, these isles must not only be fairly safe. They must be impregnable. If you see to this betimes, you can dispense justice amongst your own people, and you can stand alone, none daring to make you afraid. That can be only done by nurturing a race of military men. Men, as a poet said more than a hundred years ago:—

"Not such as nations breed in their decay,

But such as they have when they are stout and young,
When heavenly flame doth animate their clay,
And they by future poets shall be sung."

Men who have within them the heavenly flame of valor and skill and discipline, and self-confidence and self-denial—they are the men the nation wants. Get them—and that right speedily.

CAVALRY STUDIES.

[The following questions and answers are reprinted from the Austrian Cavalry Journal for the information of our cavalry officers.—Editor.*]

DESIRE to study the Russo-Japanese War from a purely cavalry standpoint. What events, episodes, etc., do you consider of main importance in such a study?"

Answer: The following events furnish the best material for the study:

1. Recconnaissance activity of the Russian cavalry prior to the battle of the Yalu.

The Russian East Detachment (Sassulitch), sent far to the front on the Yalu, had orders to stop the advance of the

^{*}Translated by M. S. E. Harry Bell, Army Service Schools.

Japanese First Army, which had landed in Corea. Its cavalry, sent to beyond the Yalu, which naturally was charged with reconnoitering the Japanese advance, solved its task very diffidently. General Mischtschenko, in place of falling back in a northeasterly direction in face of the hostile advance to thus secure to himself the possibility of reconnoitering the right flank and rear of the Japanese, fell back across the Yalu on April 3d without having any reason for doing so. As a recrossing of that formidable obstacle was almost impossible, the reconnaissance was entirely fruitless. Madritow's detachment of 500 troopers, the only Russian cavalry body remaining on the left bank of the Yalu and which could have performed excellent service in reconnaissance, entirely ignored its main task and occupied itself with fruitless operations against the Japanese communications in Northern Corea. Thus it was useless not only in reconnaissance, but was absent also in the battle.

2. Reconnaissance of the Cossack Division Rennekampf against Fenghuantscheng and Kuandiasa.

During cessation of operations after the battle on the Yalu the Cossack Division Rennekampf kept touch, at Saimatsy, with the First Japanese Army, which had pursued to Fenghuantscheng. At reconnoitering patrols in the mountainous country, traversed by but few roads, furnish only scant information, General Rennenkampf resorted to reconnaissances in force. Their results were, however, small compared with the losses sustained. Through late starts and slow marches—marching being done only during day time—the factor of surprise could not be brought into play. In many cases the Russians encountered the enemy entirely unexpectedly, their near-reconnaissance having failed, and thus became the surprised themselves.

3. Cavalry fight at Yudsiatun and participation of the Japanese First Cavalry Brigade in the victory at Wafangou.

After the capture of the position at Kintschou, on May 26, 1904, Kuropatkin decided to make an advance in a southerly direction for the relief of Port Arthur. For this purpose the Siberian First Army Corps (Stackelberg), reinforced

by parts of the Thirty-fifth Division and the Siberian Cossack Division, was to assemble at Wafangou to advance southward. On the part of the Japanese, the largest part of the Second Army (Oku) had been started from Kintschou to meet this advance, bringing about the battle at Wafangou on June 15th.

The Russian advance guard, consisting of two cavalry regiments, three Cossack frontier guard sotnias, one Cossack battery, encountered at Yudsiatun the Japanese First Cavalry Brigade (Akiyama), reinforced by two companies, which had advanced northward for reconnoitering purposes. The fight, partly carried on mounted and partly by dismounted fire action, was finally decided in favor of the Japanese by the interference of the Japanese companies.

The first Japanese Cavalry Brigade took part in the defeat of Stackelberg at Wafangou on June 15th in so far as it defeated the attempt of the Russians to envelop the right Japanese wing. After one Japanese regiment of divisional cavalry engaged the Russian enveloping detachment (three battalions, one battery) in a fire fight, the First Cavalry Brigade attacked the opponent with the carbine and completely defeated him. Thus the endangered Japanese right wing became secure.

4. Mischtschenko's detachment in June, 1904.

During the course of June the Japanese First Army slowly pressed back in the mountains, the Russians into a northwesterly direction. The cavalry detachment under Mischtschenko (five Cossack regiments, one battery) retreated on the Russian right wing, though continuously offering resistance. On June 26th, reinforced by one Siberian infantry regiment, it held the heights northwest of Siandiapu with twelve sotnias, one battalion and one battery, while the rest of the detachment was at Wandiaputzy southeast of the Daling Pass, about twenty-five km. distant. Early on the 26th the detachment at Siandiapu, with which Mischtschenko was, was attacked by three battalions, one squadron and one battery, while stronger Japanese forces simultaneously advanced against the Daling Pass. Although an additional

four Japanese battalions, one squadron and one battery were inserted against Mischschenko's left flank at Siandiapu and although the Russians lost the Daling Pass on the 27th, (Mischtschenko held his position at Siandiapu until the evening of the 27th) and started the retreat only after having offered a two-day's resistance; he was not pursued.

5. The detachment Samsonow in the battle of Liaoyang.

When in the battle of Liaoyang on September 2d the Russian Infantry Brigade Orlow, which had been started to attack the Japanese right flank (Kuroki), passed west of the coal mines at Yentai, completely defeated and in great disorder, the cavalry detachment Samsonow, four Cossack regiments, one battery, held the coal mines and brought the pursuit of the Japanese Twelfth Brigade to a standstill.

6. The Japanese Second Cavalry Brigade in the battle on the Scha-ho.

While the Cossack Division Samsonow attacked, in the battle on the Scha-ho on October 12th, a Japanese detachment sent out by General Kuroki as a flank guard, the Japanese Second Cavalry Brigade succeeded in gaining the rear of the Cossack Division entirely unobserved and throwing that brigade into utter confusion by fire surprise. Head-quarters of the Russian East Detachment was thereby deceived into the belief that a stronger attack was being made against the Russian left wing and slackened its energy of attack.

7. Mischtschenko's Raid toward Yinkou.

During the protracted pause in the operations after the battle of the Scha-ho, General Mischtschenko started on January 9, 1905, with sixty nine squadrons, twenty-two guns and four machine guns on a raid against the Japanese communications to the rear in the direction of Yinkou. The entire failure of the undertaking may be traced back to the following: Not keeping the matter secret; primary choice of an unimportant objective; slowness of movement; unreasonable delay in attack; attack being made without energy.

8. Operations of Japanese cavalry against the Russian communications to the rear prior to the battle of Mukden.

Two Japanese squadrons rode around the Russian right wing, blew up after a hot fight, a railroad bridge 250 km. north of Mukden, destroyed a magazine during their retreat, defeated a detachment sent out against them and returned in safety to their army with a captured gun. The main success of this daring ride was that Kuropatkin greatly fearing for the safety of his communications to the rear, detached very material forces for their protection at a time when he should have called up every man of his force for the decisive battle.

9. The cavalry in the battle at Sandepu.

Japanese cavalry detachments resisted with great gallantry the several superior attacks made by the Russians until the Japanese counter attack could be started. Among others, four squadrons with weak infantry and two guns held their position for two days, in spite of having been fired on, on the 25th of January, by fifty, and on the 26th by 150 Russian guns, and being attacked on the latter date by an entire Russian division.

The great activity of the Russian cavalry detachment under Mischtschenko in the battle furnishes a very interesting example of the error of frittering away the force.

10. The Cavalry in the Battle of Mukden.

Here also the Russian fault of splitting up their forces is made itself felt; although the cavalry was numerically strong it appeared at no one point in sufficient fighting force. The two independent cavalry brigades of the Japanese, combined into a division, executed their task of protecting the left flank of Nogi's army very efficiently. They succeeded in defeating a reinforced Russian infantry brigade, which had been sent out for flank protection, and driving it away from its line of retreat in such a direction that it was lost to the Russians in the battle.

[&]quot;What were the best achievements of officers' patrols in the Franco-Prussian War in the line of covering distances?"

Answer: On November 28, 1870, Lieutenant V. Wedell of the Zieten Hussars, accompanied by one non-commissioned officer and eight Hussars, covered the distance from Longey via Cloyes to Beaugency and return, having had many encounters with the enemy—distance 105 to 112 km. =70 miles.

Lieutenant V. König. 17th Hussar Regiment, attached to headquarters staff of the Second Army, rode from Orleans at 10:00 P. M. December 10th, reached Vierzon between 5 and 6 A. M., and arrived back in Orleans at 4:30 P. M. the 11th. In eighteen and one-half hours, including a halt of two hours in Vierzon, he covered 160 km.=100 miles.

On December 8th, Lieutenant Count Arnim of the Reserve of the Zeiten Hussar Regiment covered the same road from 6.A. M. to 12 midnight. 100 miles.

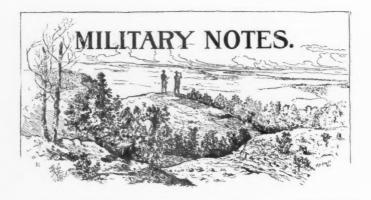
On December 9th and 10th, Lieutenant V. Hagenow of the 13th Hussar Regiment rode from the 22d Division to General V. D. Tann and back, covering, on one horse, about 157 km. in twenty-five hours. = 98 miles.

Lieutenant V. Tschierschky of the Guard Cuirassier Regiment, accompanied by a patrol, covered 120 to 130 km. in twenty-four hours.=80 miles.

On December 24th and 25th, a platoon of the King's Hussar Regiment, accompanying an officer carrying a message, covered 120 km in 28 hours.=75 miles.

On November 14, 1870, a platoon of the Uhlan Regiment, No. 8, covered 100 km in fifteen hours. = 63 miles.

On January 21, 1871, the 2d Squadron of the Baden Life Dragoon Regiment, No. 20, seeking for the connection of the troops under General V. Werder with the 7th Army Corps, covered 105 km in twelve and one half hours. = 65½ miles.



ONE LIST FOR LINE OFFICERS.

OOKED at from the viewpoint of the efficiency of the army as a whole, there has been no legislation proposed in years that promises such good results as the proposition to place all officers of the fighting arms of the mobile army on a single list for purposes of promotion.

All our legislation for years has been dominated by the one idea of promotion, either to get promotion for some one or ones or some branch.

In self protection, all those adversely affected have had to oppose such bills, with the result that the mobile arms are always unable to agree among themselves as to what is desirable legislation. The efficiency of the service thus comes to be a consideration secondary to personal advancement.

A number of officers have, through the accidents of such hap-hazard legislation, gained promotion to which they are no more entitled than are those who have in a similar way lost rank. Those who have thus gained naturally desire to keep their advantage, yet many of them are ready and willing to lose such advantage for the good of the service as a whole.

It has been noticed that articles advocating the measure are usually signed, while those opposing it are frequently not so. This has led to a suspicion that some of them are inspired by motives that would be readily understood if they were signed. At any rate it is thought that in discussing this measure we should lend to our views the support of our names.

By the nature of things each of the staff departments and the coast artillery are each united among themselves. They have only one object, the good of their own special service. This unity, while the mobile arms are not united, has led to their getting influence and consideration out of all proportion to their relative usefulness. The officers of these special services are working and thinking continually along a special line. In times their ideas get a permanent bent in that direction and they can see or care for nothing else. Most of us have competed with the engineers for class standing without success, so it is a fair statement to say that the engineer officers are the brightest men in our service. Yet an engineer officer always looks for a chance to use his special trade. In a war game or maneuver an engineer officer who has been given an offensive mission and ample means to carry it out will nevertheless usually promptly begin to look for "a position." In other words, his previous training as an engineer in the construction of field fortifications has given his mind a permanent bent that usually unfits him for the command of a mobile force. An analysis of McClellan's actions while in the command of the Union Army will lead to the conclusion that his training as an engineer officer was responsible for much that seems like timidity in the Peninsular campaign. In the same way the officers of our supply departments get a permanent bent to their minds that makes them instinctively place regularity of methods according to the rules of their departments above the needs of the troops they are supplying. To such an extent does this natural law work that it has been noticed that efficient supply officers in the field are seldom found among those who have been for

years accustomed to departmental rule. In this as in the mental attitude of engineer officers there are exceptions, but they are so rare as to do no more than prove the rule. Officering the supply departments by detail will no doubt help to eliminate this fault in future.

The above is in no sense a criticism but a statement of what it is thought is to be expected from the action of natural mental laws.

For similar reasons, now that our coast artillery is really artillery and not "red legged infantry," it can see nothing but forts as a defense for the country. They would have a sort of "Chinese wall" built around the country and expect thus to keep all enemies out, forgetting that while permanent fortifications are invaluable as points of support to a mobile army and coast defenses can be made impregnable from the sea, yet in either case the sphere they dominate is very limited in extent and they are easily captured unless they have strong mobile armies, with their almost unlimited sphere of action, available to prevent a systematic land attack. Naturally the coast artillery would like to be prepared to defend every harbor at any time. As to what proportion of the funds available for expenditure by the War Department should go toward coast defense, it must, however, be considered that the chances of any one particular fort ever being attacked are very small and the chance that a large proportion of them will be attacked or need to be prepared to meet immediate attack at the same time is so small as to be negligible.

Our coast artillery is rapidly becoming most efficient, but this very efficiency requires them to concentrate their minds on their own particular problems to the exclusion of all others. As they become more and more efficient as heavy artillery they will become less and less available or useful outside of a permanent fortification.

Each of these special services has charge of the expenditure of enormous sums of money. In this way their officers acquire business and social relations with men of wide power and influence and are able to have their views given a full hearing, so that the special views of men whose minds must

have a bias are really accorded much more consideration than is given to the needs of the mobile army. This is no fault of any one but the officers of the mobile forces who by their failure to unite and work together have lost the opportunity to get a fair presentation of the needs of the mobile arms.

This failure of the officers of the mobile arms to work unitedly has been almost entirely due to jealousies aroused over the question of relative promotion. All questions of organization, etc., are invariably so complicated by these jealousies over promotion as to soon become a mere incident to the discussion as to the effect such and such a reorganization would have on promotion of individuals. If we were all on one list we could consider these questions with a view simply to giving the country the most and best for its money.

At present the time and attention of Congress and the money of the country are expended too largely in improvements of the side issues. What the special departments and special services ask for is usually something that is desirable in itself and always is desirable from their own special point of view, but it does not follow that it is wise for the country to so divide the money and energy that is available for land defense that the main strength of such defense, the mobile forces, is left in a secondary position.

It is generally conceded that Congress would give the army good legislation if it could find out what was most desirable. Under present conditions Congress is advised in one way by one set of officers and in an opposite way by others. Eventually Congress has come to look for the colored gentleman in the wood-pile every time army legislation comes up.

The duty of the General Staff is to overlook the affairs of the army in such a way as to remove the personal and branch bias of all schemes of organization, supply, training, etc., and, taking a broad outlook of the situation, coordinate everything to the one end, efficiency. But the General Staff is composed of men from the various branches and corps who come to their duties on the General Staff with a mind biased by years of past service in a single branch.

The objection most frequently raised to placing all officers of the mobile forces on a single list is that some

officers might be promoted out of their own branch of the service. With the opportunity offered by the presented scheme to use the unasigned list as a reservoir to preserve the equality of promotion between the arms, it is doubtful whether such involuntary service in another branch would occur. On the other hand an officer would be best fitted for higher command or for duty as staff officer on the staff of a higher commander by having had such service. Before an officer goes on the general staff he should be well acquainted with all three arms. He can become well acquainted with the needs and peculiarities of the different arms only by service in them. The War Department might well inaugurate a policy of having every officer of the mobile arms who is likely to serve on the General Staff prepared for such service by a detail of six months or a year in one or both branches of the service with which he is not familiar. If this opportunity were given to the best qualified and more promising officers there would be no need to fear that any officer would be taken out of his special branch against his desires.

Would it not be well for other cavalry officers to publish their opinions on this important measure?

LEROY ELTINGE,

Captain Fifteenth Cavalry.

CAVALRY NOTES.

To the Editor:

I am sending you herewith a copy of the Cavalry Notes, which have just come from the printer.

Perhaps there may be in them some data useful to your readers. In any event, I hope there may be something contained in them that will cause some concentration of thought on cavalry organization.

It is extraordinary that the majority of our officers think that our present organization was the result of war experiences. In this connection the following recent statements of distinguished Civil War veterans is enlightening:

From Major General James H. Wilson, September 18, 1911:

"If I mistake not, these tactics (Cooke's) called for a single rank formation which was used by preference in the Army of the Potomac, but when I went west to reorganize and command the cavalry of the Military Division of the Mississippi, most of which I gathered in the camps at Gravelly Springs, I found it necessary in all display organizations, reviews, etc., and generally in practical work to reduce the formation to double ranks. Sometime in February, 1865, I held a review in which their were five divisions, amounting to 17,000 mounted men in the various fields in which the cavalry assembled. You can readily see that it would be impossible to find enough open land in Lauderdale County to handle any such force of division front in single rank.

"Somewhere in the records of that corps in the War Department you will find the order issued by me requiring the habitual use of the double rank formation."

From the same September 25, 1911:

"I enclose herewith a note just received from General Gregg, from which you will see that while in the Army of the Potomae the old double rank formation was continued to the end. He approves my letter to you, the point of which was that whatever the tactics of the western cavalry, the double rank formation was continued for all practicable purposes."

From Major General D. Mc. M. Gregg, September 25, 1911:

"I am in receipt of your letter of the 21st instant enclosing a copy of that sent by you to the War Department relating to the tactics used by our cayalry in the War of the Rebellion.

The bulk of the volunteer cavalry regiments of the Army of the Potomac received their instruction in drill from the date of their organization in 1861, until May, 1862, when the Army of the Potomac started on the Peninsular Campaign. The system of tactics used was the one double rank, and this was continued in my division, so far as my knowledge goes, until the end of the War. After the spring of 1862 there was but little, if any, opportunity for cavalry drilling in the Army of the Potomac. The summers were spent in marching, scouting and fighting, and in the winters if not employed in like manner then a change to picketing to the exclusion of drilling.

"Your letter to General Allen gives him the required information as fully as can be given."

From same, October 11, 1911:

"I thank you for your courtesy in having sent me a copy of the pamphlet containing your cavalry notes. I have read it with great interest and fully coincide with your views of the proper organization of a regiment or a company of cavalry. In the years preceding the War of the Rebellion, the service of the dragoons, cavalry and mounted rifles on the frontier was impaired and injured by faulty organization—too many small units. The same cause lessened the efficiency of the mounted arm in the War of 61-65. That the loss of

horses in that war was enormous, is true. The small units had much to do in causing this, but other causes contributed largely. One of these was, that the great size of the mounted service made such a heavy demand on the horse stock of the country, that in the later years of the war, horses totally unfit for the service were accepted. Contractors managed to have accepted at government yards anything in the shape of a horse. Horses too old, too young, unsound, were sent out, and of course these under the hard service to which they were subjected, winter and summer, were soon condemed as unfit for use. Then, too, recruits without previous training were sent to regiments in the field. These inexperienced men knew nothing about the care of horses and as a consequence injured them.

"I trust your strong presentation of a needed reform in organization will bring about a change."

From Lieutenant General S. B. M. Young, September, 18, 1911:

"The old Scott Tactics with the double rank formation were in force but that sometime in the winter of 1861-62 while in camp near Washington, his squadron was selected to try out the new Cooke Tactics upon which he reported favorably, but in the spring of 1862 they reverted to the Scott double rank tactics which were used from that time until the end of the war"

From Brigadier General T. F. Rodenbough, September 18, 1911:

"The regular cavalry used Poinset's double rank two troop squadron tacties during the Civil War, but some volunteers in western armies may have used Cooke's single rank formation."

There are others who insist that universal (barring the United States) cavalry organization would be too complicated for volunteers. These persons fail to recognize the fact that it is much easier to handle one large squadron than three small ones. The ease with which our troops at Leon Springs went to double rank demonstrated that it was not difficult; moreover there is a tremendous advantage in putting new men where (in rear rank) they always have a guide and friend immediately in front.

There is a fallacy that has for some unknown reason crept into the minds of many of us, and that is that double rank formations are not as well adapted to foot fighting as single rank. The question involved in this would simply be one of numbers with the advantage in favor of the formation which causes the total of distances traveled by the troopers in reaching a given position to be the least. That is capable of ready geometrical demonstration.

The most remarkable fallacy that has found lodgement in the minds of some of us is that European terrain is totally

different from ours, and therefore requires different organizations and formations. I leave that to be answered by any man who has traveled in Europe. But if that principle were recognized as important, why should all other countries, including Asiatic and South American, not have recognized it? If that principle were true, why should the organization suited for the principal battle fields of the Civil War not be changed for the regions contiguous to the Canadian and Mexican boundaries, and in fact for two-thirds of the area of our own country and of those contiguous to us?

Finally, it has been reported by some that certain European powers would adopt our organization were it not for the expense involved. I have followed the European trend of cavalry many years rather closely, and it can be truly said that this report is not well founded. Moreover, I fail to understand how our organization is relatively more expensive than theirs, since they have relatively more field and more troop officers than we have.

Two great desiderata in the proposed changes are: economy in detached men and economy in barracks, stables, parking, streets and sewers. These matters merit careful consideration.

There is a minor consideration, but, nevertheless, one that is seriously and closely related to efficiency: An effort to have grades conform to ages, or rather ages to grades, more than at present—to have an organization wherein there is a reasonable flow of promotion. If I were to state one cause as more powerful than any other in preventing the highest military efficiency in our service, I would name excess of age for grades. What is still worse is the fact that it is precisely in the cavalry where that burden falls the heaviest—in a branch where it should be the lightest.

It seems to me that our standard of efficiency should require us to equal any cavalry in shock action, and, man for man, when dismounted to equal any foot soldiers. In my opinion no standard lower than this should be set for our officers and troopers, nor taught at our institutions of learning.

HENRY T. ALLEN,

Major, General Staff U. S. Army.

OFFICERS' CHARGERS

A S has been stated many times in previous numbers of the CAVALRY JOURNAL, we would be pleased to receive and publish photographs of officers' chargers with a view of our mounted officers becoming familiar with what is thought to be the best type of such horses.

The one reproduced herewith below has been furnished by one of our members.



POWHATAN.

Owned and Ridden by Captain Hugh D. Wise, Ninth Infantry.
(Winner in the Charger Class at Fort Leavenworth, 1910.)

Height 15-3 1-2; weight, 1,050; color, bay; gelding; eight years old. Sire, Montgomery Chief; out of a thoroughbred mare.

CAVALRY REORGANIZATION.

The Editor:

DUE to the urgency under which my article, "Cavalry Reorganization," published in the September, 1911, number of the JOURNAL, was written, there is an omission. While this discrepancy does not change the conclusion reached, its mere existence may be misinterpreted in some places, and, therefore, I write now to make the necessary correction.

On page 267 is the statement: "The tactics in use by the Union Cavalry at this time were those of Colonel P. St. George Cooke, adopted in 1861." As stated, these tactics were approved and were published for the government of the service. The drill provided for the maneuver of the squadron (our troop) of which there were ten to the regiment, of the regiment, and of the brigade. Between the squadron (our troop) and the regiment, there was no intermediate organization corresponding to our present squadron. The ten squadrons were maneuvered by the direct commands of the colonel, the majors having no specific command as now provided for in our organization. These tactics provided, for the first time in our mounted service, for drill in single rank.

In 1826 a board was appointed and the same year reported "A Complete System of Cavalry Tactics." This was published to the service in 1834, at which time there was but one mounted regiment, the First Dragoons, which had been created the year before, in the regular service. These tactics were known as the "Scott Tactics." General Scott having been president of the board.

In 1841 there was adopted and published to the service a "cavalry tactics, adapted to the organization of dragoon regiments." These were generally known as the "Poinsett Tactics" or "'41 Tactics." They were chiefly a translation of the tactics of the French service. An edition of these tactics was also published in 1864.

So far as concerns organization, the Scott Tactics provided for a regiment of four squadrons and the Poinsett Tactics for a regiment of five squadrons. Each squadron was composed of two troops or companies, as they were variously designated, the squadron being commanded by the senior captain, the other captain having no command but being merely a file closer. The colonel commanded the regiment and the lieutenant colonel and major had merely nominal or supervisory duties. The major had no direct command, such as is now prescribed for him in regimental drill. The drill was in double rank. Neither of these tactics prescribed any organization higher than the regiment. The troops (or companies) when acting alone were each commanded by their respective captains.

The Cooke, Scott, and Poinsett Tactics were all used during the Civil War. In fact, unlike our present practice, rigid adherence to one drill book was not exacted throughout the service.

The text used in the Civil War and the other references were cited for the purpose of showing the legislative and tactical organizations of the cavalry at that time and of comparing those organizations with those which we now have. An examination of the tactics cited above will further sustain the contention advanced in my article that our "present organization and system of drill cannot be said to be based directly on our experiences in the Civil War."

HOWARD R. HICKOK, Captain, Fifteenth Cavalry.

RIDING AT WEST POINT.

THE following has been sent us by one of our most progressive cavalry officers:

"From the Official Register of Officers and Cadets of the

United States Military Academy, for 1911, we glean that the amount of instruction in riding at West Point is as follows:

"During the first year no riding.

"During the second year, forty-three drills of sixty minutes each.

"During the third year, thirty-five drills of forty-five minutes each.

"During the fourth year, 103 drills of sixty minutes each.

"A grand total of 167 hours of riding during the four years.

"Deducting from the above the ten minutes consumed in marching to each drill, or about thirty hours in all, it would appear that the cadet, during his four years' course has 137 hours of mounted instruction, or about as much as a cavalry recruit gets in two months, riding two and one-half hours per day, not including Sundays.

"Is this, even approximately correct?"

OFFICERS' INTER-REGIMENTAL RACES IN RUSSIA.

ONE event among the different ceremonies which we attended this year in Russia was of especial interest. This was the inter-regimental racing, inaugurated a few years ago by the Commander-in-Chief, the Grand Duke Nicholas, and in which all the mounted regiments, artillery, as well as cavalry, are obliged to compete. To the winning regiment a handsome silver cup is presented by the Emperor, in person, who hands it with a short speech of congratulation to the colonel.

The conditions of the race are as follows: All the officers of the mounted regiments in camp must attend unless detached or sick. Each regiment must be led by its colonel, and the officers of the regiment must keep behind him. Officers who cross the finish line more than fifteen seconds

after his colonel is considered out and this affects his regiment's standing. The distance is six versts (four miles), over six jumps as well as other obstacles, such as high banks and ditches, and must be covered in less than twelve minutes.

Each regiment starts with all the officers behind the colonel, and time is taken from the time the colonel crosses the starting line till he finishes in the lead. The final standing of the regiment is determined from the two factors, the number finishing within fifteen seconds after the colonel, and the time in which he makes the course. As nearly as I could time them, the winning regiment covered the distance in close to ten minutes, though the papers said even less. As this would be galloping at the rate of a mile in two and one half minutes it can be seen that the pace was a stiff one.

Such a competition necessarily means not only that each officer must own a good horse, but that all, from the colonel down, must be hard riders; and to win the colenel must be a good judge of pace, splendidly mounted, and physically fit to lead his regiment.

In this connection I may state that I have seen a Russian cavalry regiment drill for twenty-one minutes without a halt or even a walk, and entirely at a gallop, part of which when wheeling to change direction was at the run and the final charge was also at a fast run. During all this twenty-one minutes the colonel was at the head of his regiment, giving but few commands but causing it to follow him almost entirely by signals with his saber.

In sixteen years in the cavalry service, I have never before seen or heard of a regimental drill that approached this exhibition and I feel sure that it was due entirely to the physically fit and hard riding colonel.

N. K. A.



Nan Shan and Port Arthur.*

The bitterness that usually characterizes personal memoirs written so soon after the events to which they relate is entirely absent from this narrative of the experi-

ence of one who was present at and took a conspicuous part in the fighting at and near Port Arthur. The author simply states facts as he saw them, without references to underlying causes or criticism of any one.

Historically the account seems to be remarkably accurate as it checks closely with any of the good historical accounts of that war. Where the account differs historically from the British Official History of the Russo-Japanese War the fact is noted by the translator.

The volume is well printed in good type, beautifully illustrated and contains good maps.

It will be of the greatest value to any officer who wishes to make a systematic study of the Manchurian War by enabling him to get a clear idea of the Russian situation and view-point, such as no purely historical account will give.

^{* &}quot;My Experiences at Nan Shan and Port Arthur with the Fifth East Siberian Rifles." By Lieutenant General N. A. Tretyakov. Translated by Lieutenant A. C. Alford, R. A. Edited by Captain F. Nolan Baker, R. A. Maps and illustrations. Hugh Rees, Ltd., London. Price, 12s, 6d., net.

As an example, the author in one place tells how two adjoining company commanders agreed that, as verbal messages had frequently led to misunderstandings that caused a lack of mutual support, they would neither of them leave their positions without notifying the other and that such notification should be in writing. Later one company commander went on his firing line, leaving a subordinate in command of his reserve and failed to notify his second in command of the agreement with the adjoining company. This company commander was killed and his company routed. The first intimation the commander of the company reserve had of this was when he saw the front line flee past him. He thereupon followed the retreating front line and of course did not notify the adjacent company, which did not know that the adjoining part of the position had been abandoned till the Japanese began to fire into it from the rear.

Similar mistakes in the transmission of orders and messages are frequently recorded, showing a lack of peace-time training among the Russian officers and plainly bringing out how the absence of such training causes a lack of team work that greatly lowers efficiency and results in mutual recrimination after the events.

No careful student of the Manchurian War should overlook this book which will put him in a position to fully understand many otherwise inexplicable happenings in the Russian forces.

As to Polo" needs no introduction to the army. His chapter, "The Game," contains a number of suggestions to the polo player which its author should not hesitate to call axioms. They should be posted on the bulletin board of every polo club and field so that the beginner may study carefully at the outset what he must have pounded into him thoroughly later before he is fit for a match.

^{*&}quot;As to Polo." By William Cameron Forbes, Governor General of the Philippine Islands. 1911. Privately printed.

Some of our horsemen may take issue with Governor Forbes on seats, bitting and the hand, but all will read the chapter on horsemanship with interest, and the one who must take up horsemanship along with polo will find it very helpful.

The chapters on the use of the mallet, team play and the duties of the individual players are careful studies which will

appeal to polo players generally.

The diagrammatic analysis of play in twenty-four fullpage plates in colors will be found particularly valuable, not only because the plays illustrated are a safe guide, but also because they are sure to provoke a wholesome discussion and study of the game.

There are chapters on the polo club, rules, the field, ponies and equipment, making it a standard reference book.

"As to Polo" is privately printed in the interests of the game and should receive a warm welcome from all lovers of the king of sports. Army players will read it with additional interest on account of the author's well known support of the game in Manila, which has been of great assistance to polo in the army.

H. C. W.

Cadet Life at West Point.* This is the third edition of Captain Reed's book which gives an interesting account of a cadet's life at the Point as it was in the days of a generation and more ago.

In this edition Captain Reed has brought the data as to the appointment and requirements for entrance up to date and has also made the historical part complete as regards the later officials of the academy.

The book is fully and well illustrated with many plates showing the buildings, etc., as they were in the past, are now, and one as the place will be when the many improvements now under way and contemplated are completed.

The several chapters of the book are: The Appointment; The Preparation; The Candidate; The Plebe in

^{* &}quot;Cadet Life at West Point," By Captain Hugh T. Reed, U. S. Army Retired. Irvin Reed & Son, Richmond, Indiana, Price, \$1.50.

Camp; The Plebe in Barracks; The Yearling; The Furlough Man; The Graduate; The U. S. Military Academy

and The Appendix.

To the graduate of the Military Academy the book is of interest on account of the many pleasant reminiscences brought to mind and to the young man who is contemplating entering the academy because it will give him many valuable pointers as to the entrance requirements.

Military Law Examiner.* This is the eighth edition of Colonel Pratt's book on this subject, two previous editions of which have been reviewed in the CAVALRY JOURNAL. There

is little that can be said of this book beyond what was mentioned in these two previous reviews and also in the two reviews in this number of the JOURNAL of books published by Gale & Polden and for the same purpose, that of preparing officers of the British service for their examinations for promotion.

For those of our service who are anxious to learn something of the military code of the British army, this work would answer the purpose fully.

Soul of the Indian.†

The "Soul of the Indian" is an especially valuable and enlightening estimate of Indian character, from the fact that the author, Dr. Charles Eastman, is himself an

Indian—the son of "Many Lightnings," a full blooded Sioux and his Sioux wife. Dr. Eastman has attempted to show us the true Indian, freed from the prejudices and legends which prevail in the minds of most white men.

^{*&}quot;The Military Law Examiner." By Lieutenant Colonel Sisson C. Pratt, Royal Artillery, (Retired). Eighth edition, 1911. Gale & Polden, Ltd. London. Price four shillings and six pence, net.

^{†&}quot;The Soul of the Indian." By Charles Alexander Eastman, Houghton Mifflin Company, Boston and New York. Price, \$1.00.

"Since there is nothing left us but remembrance," he writes, "let that remembrance be just." A few of his chapters discuss "The Great Mystery," "The Family Leader," "Barbarism," and "Ceremonial and Symbolic Worship." The book is written strongly and convincingly and is interesting psychologically and ethnologically.

Dr. Eastman graduated from the Boston University Medical School in 1890 and then became the government physician at the Pine Ridge Indian Agency.

Guide to Promotion. This is another of the numerous books published by Gale & Polden for the use of the officers of the British army in preparing for examination for promotion,

and which are so popular with the officers of their service.

This is the third edition of this work and, as is necessary with such books, it has been revised and brought up to date. It covers the subject of "Regimental Duties" and, in addition to covering all the different subjects on which the officer is liable to be examined, it gives a list of all books that it is necessary for him to study.

For the officers of our service, this book is only of use in giving him an idea of the duties of regimental officers of the British service and the scope of their examination for promotion.

The following is an extract from the Introduction:

"According to the system at present in vogue in the service, officers of all ranks up to and including that of major, must undergo an examination and obtain a certain percentage of marks to pass before being promoted a step in rank. Warrant officers and non-commissioned officers in addition are compelled to pass an examination before they can obtain their commissions as second lieutenants; also

^{*&}quot;Guide to Promotion" for Officers in Subject (a) (i), (Regimental Duties), By Major R. F. Legge, The Prince of Wales' Leinster Regiment. Gale & Polden, Ltd., London and Aldershot. Third edition, 1911. Price, four shillings, net.

quartermasters and riding masters before attaining the combatant rank of lieutenant.

"The object of these examinations is not so much to ensure a simple passing of the tests, which are really fixed at a rairly low standard, as to encourage officers to improve themselves by reading and practice in professional knowledge and attainments."

Organization, Equipment, Etc.* That this book is valuable and popular with the British Army officer is evidenced by the fact that it is now less than a year that a review of the tenth edition of this work appeared in the Cavalry Journal.

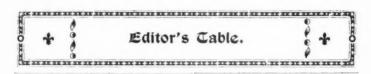
According to the preface to this edition, it has been carefully revised and brought up to date, especially as regards the Colonial Forces.

The following is from the previous review mentioned above:

"That it is running in the tenth edition is proof positive that it is popular and valuable to the British army officer. In this respect it might be compared to the Officers' Manual for Subalterns by Moss, though the purpose of the two books do not appear to be exactly similar.

"Lieutenant Colonel Banning's book has been compiled with especial reference to presenting the subject matter on which officers must pass examinations for promotion in a concise and easily digested form."

^{*&}quot;Organization, Administration and Equipment Made Easy." By Lieutenant Colonel S. T. Banning, Late Royal Muster Fusileers. Eleventh edition. Gale and Polden, Ltd., London. Price four and six, net.



RECENT PUBLICATIONS OF MILITARY INTEREST.

It has been suggested recently by one of our members that there be published in each number of the CAVALRY JOURNAL the "Digest of selected information carded in the War College Division of the General Staff" as issued each month by that branch of the General Staff. Another member has advanced the idea that there should be kept set up and published in each issue of the JOURNAL a list of the latest and best military books, similar to the one published in the November, 1909, number of this JOURNAL, the same to be revised from time to time as later or better books appear.

To follow out the first suggestion would require us to use from twenty to thirty, or even more, pages of the CAV-ALRY JOURNAL for this purpose. The latter idea is more feasible but it is thought that the list above mentioned, together with the published book reviews, would answer the purpose. However, it might be well to republish this from time to time as some of those books become obsolete and others take their place. Also, it must be remembered that only a small portion of the military literature published appears in book form and that the matter printed in the many military periodicals is frequently of equal or greater value to the military student.

There are now two such lists of military information published, one in this country and one in England. There may be others in foreign countries. These are the "Index to Current Military Literature" that has been for several years issued with the Artillery Journal, at Fort Monroe, and "Recent Publications of Military Interest" published by the British War Office. The publication of the latter in the form heretofore issued has been discontinued and it now appears as an appendix to the "Army Review," a military magazine also issued from the British War Office.

Both of the above mentioned publications are of value to the military student, but, still, in case he desires to pursue the investigation of any particular military subject to a conclusion, it is necessary for him to wade through the back numbers of either or both of these or similar publications.

A few years since the Editor of the CAVALRY JOURNAL, in his official capacity as Librarian of the Army Service Schools at Fort Leavenworth, proposed to the War Department authorities that there be established a central bureau in some one of the divisions of the General Staff, or elsewhere in the Department, for the purpose of preparing and issuing index cards of all publications of military interest similar to those issued by the Library of Congress. He had learned previously from the Librarian of Congress that his office did not issue such cards for military books as they did not purchase such works. It was suggested that these index cards of all military publications when prepared should be issued to the libraries of all the military schools of the country and also to at least all of the larger garrisons, if not to all or them.

This plan would enable each school and the more important garrisons to keep an up-to-date subject index, and possibly an author index also, of all military literature which would be accessible to a large proportion of our officers.

The War Department, while admitting the value of such a scheme, stated that it was impracticable for it to be carried out by any of the divisions of the General Staff or other bureau of the Department.

However, this question of publishing these "Digests" or other lists of military information is open for discussion.

It might possibly be practicable to publish in each number of the JOURNAL a well selected list of the more important publications or to print only those of especial interest to the cavalry service.

CAVALRY NOTES.

There has been published recently by the War Department a small pamphlet under the above title. It was prepared by our Acting Chief of Cavalry, Major Henry T. Allen, General Staff. The sub-heads of this interesting little work are the following: Importance of larger cavalry posts; regiments of fewer but larger units; striking similarity of cavalry formations everywhere; value of Civil War experiences; drill regulations; experiments with provisional regiments; creation of present cavalry organization; outlines of a six-troop cavalry regiment; peace strength of cavalry and its ratio to infantry; and cavalry drill regulations of the Civil War.

It is illustrated with numerous plates which show the formations for maneuver for cavalry regiments of the more important countries and the formation of our own cavalry regiments during the Civil War.

It was our intention to reprint a part or all of this interesting pamphlet in this number of the CAVALRY JOURNAL, but this was prevented by the non-arrival of the plates.

THE CAVALRY EQUIPMENT BOARD.

It was hoped that further information as to the work of this board would be forthcoming for publication in this number of the JOURNAL. Especial interest is being taken in the tests of the several articles of the new equipments that have been made recently.

A squadron of the Thirteenth Cavalry recently made a march of over 500 miles, under charge of the Equipment Board, for the purpose of trying out the new equipment and of comparing it with the old under the same conditions as to weather, hard riding, etc.

One half of this squadron used the old equipment, the other half being outfitted with the new.

The test was a severe one, owing to the fact that at times it was very hot and much rain and mud was encountered; also, two spurts of over 100 miles in three days were made.

While the board would not commit themselves as to the results of the tests, yet it was learned that the members were well satisfied with the new equipment as a whole: some minor changes, however, will probably be made before their final report is rendered.

While this squadron was at Fort Leavenworth, this equipment was examined by many cavalry officers, just after the second of the over 100 mile spurts was made, and the general opinion was that "it looked good to them."

Of course, special interest centered in the new saddle and its attachments for carrying the pack, and particularly as to the production of sore backs by its use under the trying circumstances of this test.

As a whole the equipment is believed to be greatly superior to that which we have had for so many years and particularly as to the method of carrying the rifle saber and the the pack in general.

It is hoped that something more definite as to the results of this practice march may be had for our next number.

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A NEW MODEL TYPEWRITER.

In this issue appears an announcement that will cause typewriter users to "sit up and take notice." The Royal Typewriter Company comes out with a New Model, the No. 5 Royal, comprising every "modern improvement" and many new features not found on other machines. Among the well known features not heretofore included in the Royal make-up, which have been incorporated in the New Model, are the back-space key, the two-color ribbon and the tabulator. The latter, to be sure, has been furnished heretofore on special order, at an extra charge; but is now one of the "inbuilt" features supplied with every No. 5 machine. New and exclusive features, for which the Royal people are claiming much merit, are the Tilting Paper-table, which gives ready access to margin and tabulator stops; and the Hinged Paper Clamps, an innovation which permits writing to either edge of the paper without moving the clamps or

releasing their grip on the paper. There are a number of other new features of less importance, but which are said to greatly enhance the convenience and efficiency of the machine.

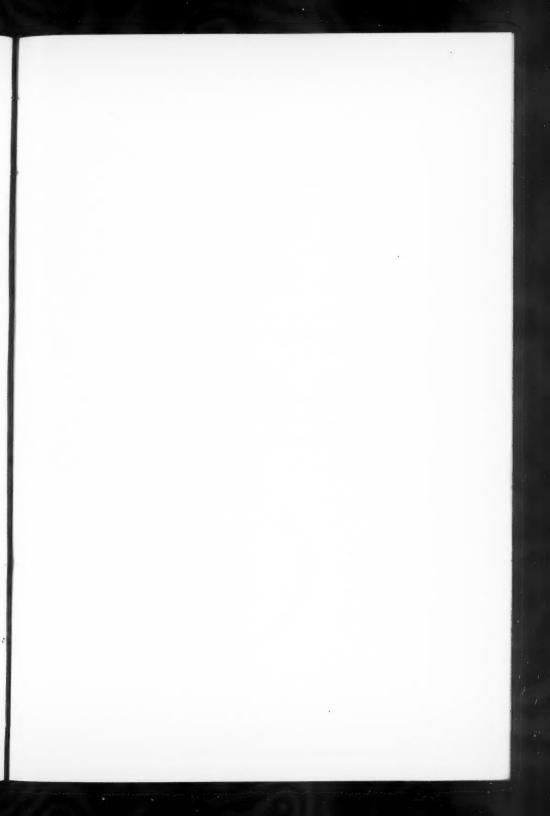
The new machine with its complete equipment of popular features, places the Royal on an equal footing with the other standard typewriters—in fact, it may be said the Royal has a considerable advantage in the fact that the price of this highly improved New Model No. 5 is only \$75.00.

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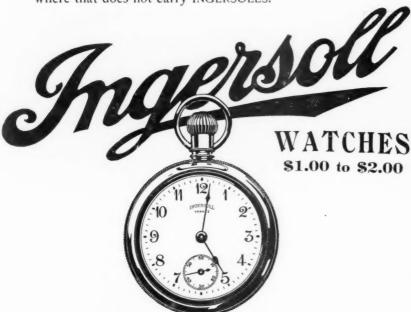




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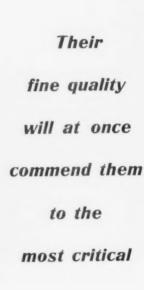
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